

ORDER NO.MAD0508007CE

Service Manual

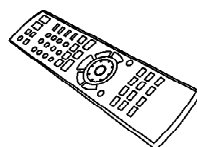
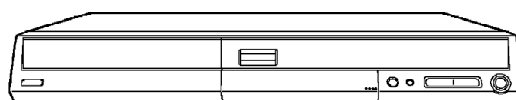
DVD Recorder

DMR-EH60DEB

Vol.1

Colour

(S).....Silver Type



DMR-EH60DEB EUR7729KI10

Note:

This model's DVD-RAM Drive is VXY1872.

When replacing with Digital P.C.B. or HDD,
"UNFORMAT" indication is displayed and HDD
must be formatted.
After that, **programme in the HDD will be lost.**
In detail, please refer to each content in this
service manual.

SPECIFICATIONS

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WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

1. INTRODUCTION

This service manual contains technical which will allow service personnel~s to understand and service this model.

Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplement service manual to be filed with original service manual.

1. This service manual does not contain the following information, because of the impossibility of servicing at component level.
 - Schematic Diagram, Block Diagram and P.C.B. layout of Digital P.C.B. and Backend P.C.B.
 - Parts List for individual parts of Digital P.C.B. and Backend P.C.B.
 - Exploded View and Parts List for individual parts of RAM drive.
2. The following category are recycle module part. Please send them to Central Repair Center.
 - Digital P.C.B.: RFKBEH60DEB
 - Backend P.C.B.: REPD0023A
 - RAM drive: VXY1872

2. SAFETY PRECAUTIONS

2.1. GENERAL GUIDELINES

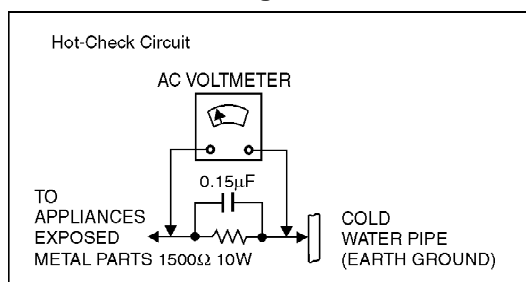
1. Be careful during removing metal parts, sharp edges.
2. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
3. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
4. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

2.1.1. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the

equipment such as screw heads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1\text{M } \Omega$ and $5.2\text{M } \Omega$. / When the exposed metal does not have a return path to the chassis, the reading must be infinity.

Figure 1



2.1.2. LEAKAGE CURRENT HOT CHECK

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5\text{k } \Omega$, 10 watts resistor, in parallel with a $0.15 \mu \text{ F}$ capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliampere. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

3. PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATIC SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such

components commonly are called Electrostatic Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistor-and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing

together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by \triangle in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

4. PRECAUTION OF LASER DIODE

CAUTION:

This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.

Wave length: 662 nm (DVDs)/795 nm (CDs)

Maximum output radiation power from pickup: 100 μ W/VDE.

Laser radiation from the pickup lens is safety level, but be sure the followings:

1. Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.

ACHTUNG:

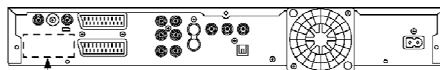
Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit ausgestrahlt.

Wellenlänge: 662 nm(DVDs)/795 nm (CDs)

Maximale Strahlungsleistung der Lasereinheit /VDE.

Die Strahlung der eingeschalteten Lasereinheit ungefährlich, wenn folgende Punkte beachtet werden:

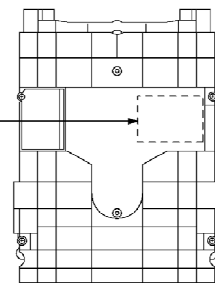
1. Die Lasereinheit nicht zerlegen, da die Strahlung der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht in die Fokussierlinse blicken.
4. Auch nicht mit optischen Instrumenten in die Fokussierlinse blicken.



LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

CLASS 1
LASER PRODUCT

DANGER	VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.	CLASS 1 LASER PRODUCT
CAUTION	VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.	RECOMMENDS 11
ATTENTION	ATTENTION: INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.	RECOMMENDS 11
ADVARSEL	SYNLS OG USYNLS LASERSTRÅLING NÅR ENHETEN ÅPENS. UNNÅ DIREKT EKSPOSISJON FOR STRÅLING.	
VARO!	AVOITÄKÄSÄ OLET ALTTLINNAKÄSÄÄN JÄNNUKÄSÄÄN LASERSTRÄLÄN. ÄLÄ KÄSÄÄSÄÄN.	
VARO!	SYNLS OG USYNLS LASERSTRÅLING NÅR ENHETEN ÅPENS. UNNÅ DIREKT EKSPOSISJON FOR STRÅLING.	
ADVARSEL	SYNLS OG USYNLS LASERSTRÅLING NÅR ENHETEN ÅPENS. UNNÅ DIREKT EKSPOSISJON FOR STRÅLING.	
VORSICHT	SEHRICHTUNG UND UNSEHRICHTUNG LASERSTRÄLÄN. WENN ABGEKÜHRT GEFÄHRDUNG FÜR STRÄLÄN.	
注意	一打开时有可见及不可见激光辐射，避免激光辐射。	
注意	一打开时有可见及不可见激光辐射，避免激光辐射。	



CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

5. HANDLING THE LEAD-FREE SOLDER

5.1. ABOUT LEAD FREE SOLDER (PbF)

Distinction of PbF P.C.B.:

P.C.B.s (manufactured) using lead free solder will have a PbF stamp on the P.C.B.

Caution:

- Pb free solder has a higher melting point than standard solder;
Typically the melting point is 50 - 70°F (30 - 40°C) higher.
Please use a high temperature soldering iron. In case of the soldering iron with temperature control,
please set it to 700 ± 20°F (370 ± 10°C).
- Pb free solder will tend to splash when heated too high (about 1100°F/600°C).
- When soldering or unsoldering, please completely remove all of the solder on the pins or solder area,
and be sure to heat the soldering points with the Pb free solder until it melts enough.

6. GENERAL DESCRIPTION

7. NEW FEATURES

7.1. QUICK START FUNCTION (REC)

1. General

A few seconds after tuning on the unit, you can start recording to DVD-RAM, HDD.

You can switch the operation of this function (ON/OFF) on the menu screen.

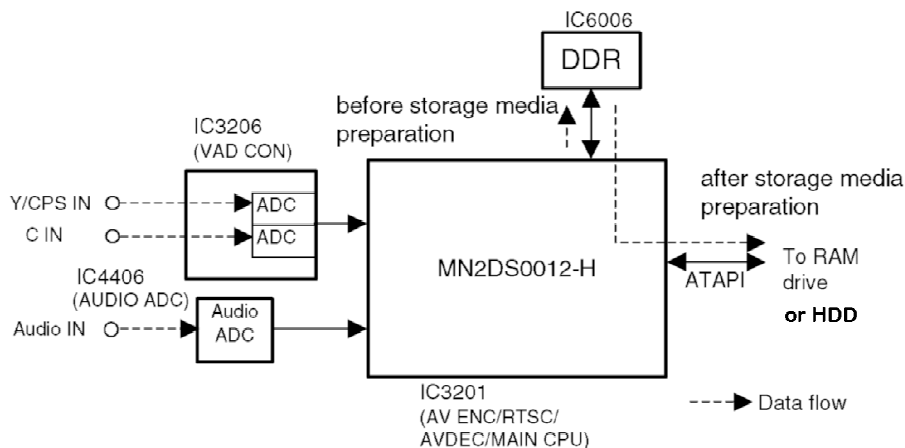
2. Quick start (REC) principle

In the power-off at Quick start, only power supplies for video IC, tuner and storage media are cut off.

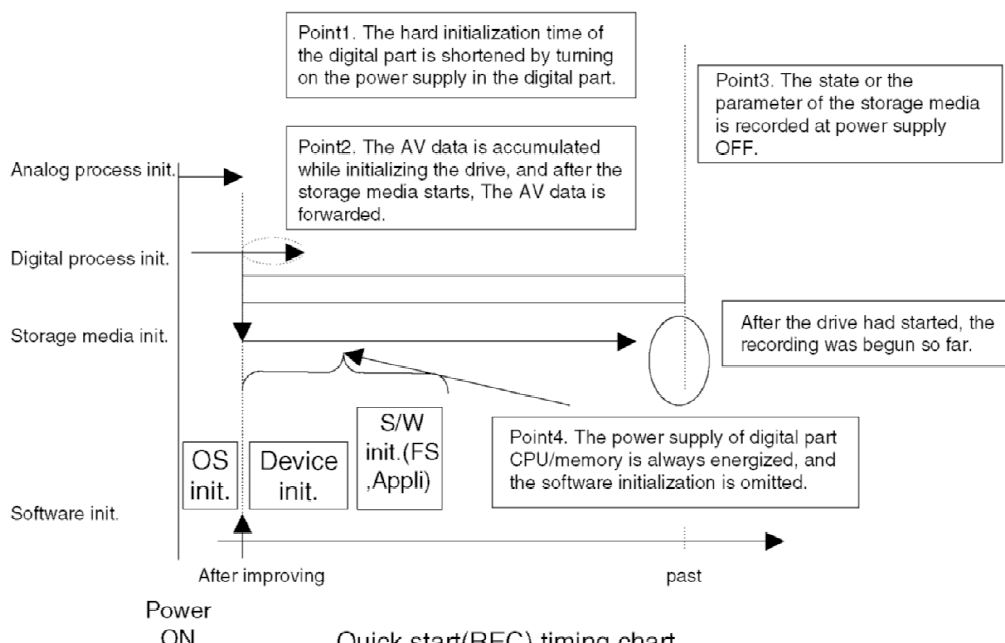
2.1. When the REC button is pushed a few second after the power button is pushed, Audio and Video data are stored in DDR SDRAM before a storage media (DVD-RAM or HDD) preparation.

*Preparation time → DVD-RAM: About 8 seconds, HDD: About 18 seconds.

2.2. After a storage media DVD-RAM or HDD preparation, / Audio and Video data are transferred from DDR SDRAM to the storage media.



Quick start(REC) explanation chart



Quick start(REC) timing chart

8. TAKING OUT THE DISC FROM RAM-DRIVE UNIT WHEN THE DISC CANNOT BE EJECTED BY OPEN/CLOSE BUTTON

8.1. FORCIBLE DISC EJECT

8.1.1. WHEN THE POWER CAN BE TURNED OFF

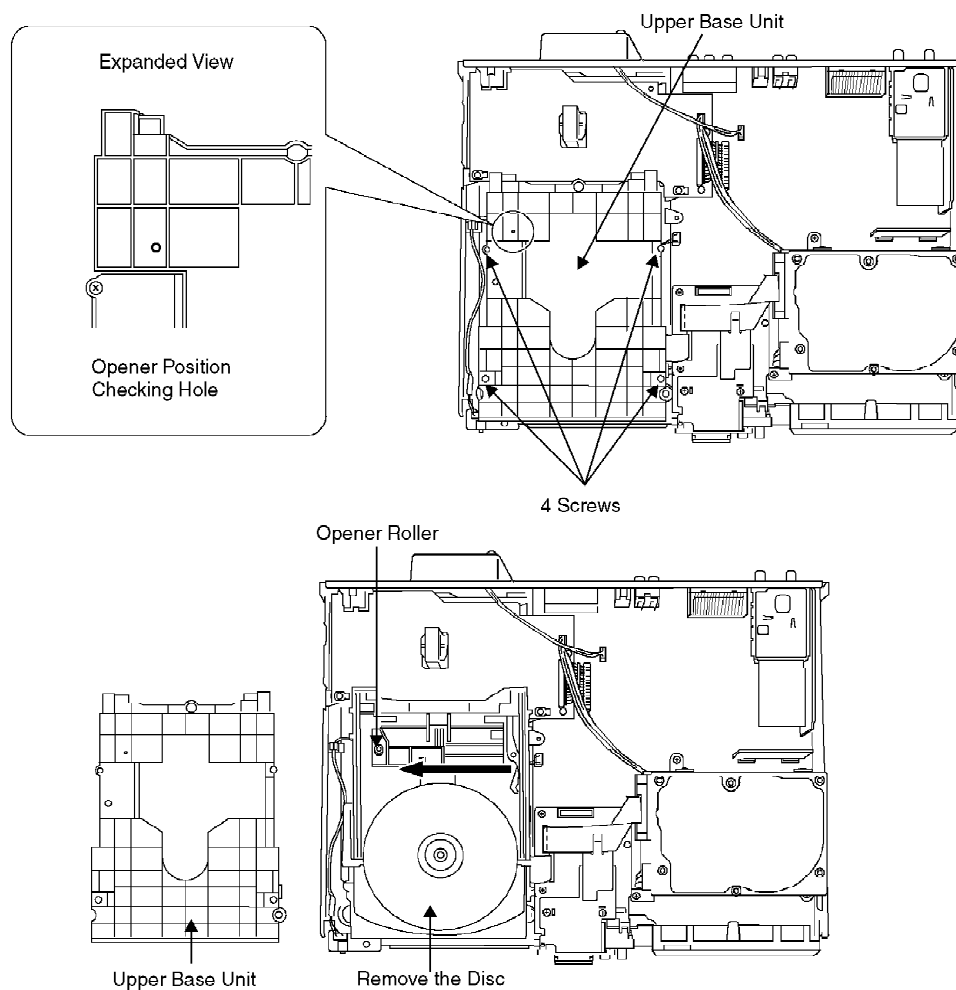
1. Turn off the power and press [STOP] [CH UP] keys on the front panel simultaneously for 5 seconds.

8.1.2. WHEN THE POWER CAN NOT BE TURNED OFF

1. Press [POWER] key on the front panel for over 10 seconds to turn off the power forcibly, and press [STOP] [CH UP] keys on the front panel simultaneously for 5 seconds.

8.2. WHEN THE FORCIBLE DISC EJECT CAN NOT BE DONE

1. Turn off the power and pull out AC cord.
2. Remove the Top Case and the Front Panel.
3. Remove 4 screws and Upper Base Unit from DVD-RAM Drive.
4. Take out the disc and put the Opener Roller on fully position for direction of Arrow.
5. Put the Upper Base Unit so that the Opener Roller is inserted into the groove.
6. Check Opener Roller is seen through the Opener position Checking Hole, and tighten 4 screws.



9. (DVD) SERVICE EXPLORER

Confirm "RAM-Drive Last Error" in Service Mode

Execute Service Mode

1. Press [REC], [CH UP] and [OPEN/CLOSE] simultaneously for 5 seconds when P-off.

FL Display:

SERVICE MODE

*After finishing display "(7). Factor of Drive Error occurring", press [0] [2] ~ [1] [9] keys of the Remote Controller so that 19 memories can be displayed as maximum.

2. Press [4] [2] keys of remote controller.

Example of FL Display:

(1) Error Number is displayed for 5 seconds.

NO 01

(2) Time when the error has occurred is displayed for 5 seconds.

50216191526

The error has occurred at 2005(year)/Feb.(month)/16(day)/19(hour):15(minute):26(second)

(3) Last Drive Error (1/2) is displayed for 5 seconds.

031000

**Error
Sense Key**

00: Bad disc
03: Bad disc
04: Bad disc or RAM-Drive malfunction

When above error codes are displayed, confirm operation with Panasonic RAM or DVD-R disc. / *
If the operation is OK, judge the error is due to media. / * If the operation is NG and symptom as
BLOCK NOISES and so on that are particular symptom of Digital / appears, judge the error is
due to RAM-Drive or Digital P.C.B. .

(4) Last Drive Error (2/2) is displayed for 5 seconds.

00130000

*This error code is unnecessary for service

// (5) Error occurring Disc type is displayed for 5 seconds.

MEDIA DVD R

Disc type
* The error disc cannot be specified, display as "DVD".

(6) Disc Maker's ID is displayed for 5 seconds.

MXL R 061

**Example of Disc Maker's ID:
DVD-R Disc**

No.	FL Display (Disc Maker's ID)	Disc Maker	C
1	MEI	Panasonic	Japan
2	PVC	Pioneer	Japan
3	MCC	Mitsubishi Chemical Corporation	Japan
4	TDK	TDK	Japan
5	MXL	Maxell	Japan
6	MCI	MITUI CHEMICALS	Japan
7	JVC	Victor JVC	Japan
8	TAIYOYUDEN	Taiyo yuden	Japan
	TYG		
9	GSC	Giga Storage	Taiwan
10	PRODISC	Prodisc	Taiwan
11	PRINCO	PRINCO	Taiwan
12	RITEK	RITEK	Taiwan
13	OPTDISC	OPTDISC	Taiwan
14	LEAD DATA	LEAD DATA	Taiwan
15	CMC	CMC	Taiwan
16	AUVISTAR	AUVISTAR	Taiwan
17	ACER	Acer	Taiwan
18	VIVASTAR	VIVASTAR	Switzerland
19	LGE	LG Electronics	Korea

DVD-RAM Disc

No.	FL Display (Disc Maker's ID)	Disc Maker	C
1	MEI	Panasonic	
2	MATSUSHITA	Panasonic	Japan
3	MXL	Maxell	Japan
4	PRODISC	Prodisc	Taiwan
5	OPTDISC	OPTDISC	Taiwan
6	CMC	CMC	Taiwan

*Since the disc information can be changed without information from the producer, the above-mentioned display may be changed. Please make it reference as an example of a display.

(7) Factor of Drive Error occurring is left displayed

INFO A80440



Error Occurring Disc Type

FL Display	Disc Type
00	DVD-ROM/Video
01	Audio-CD
02	2.6GB DVD-RAM
03	4.7GB DVD-RAM
04	DVD-R

Error Occurring Disc State

FL Displays (Hexadecimal)	Description			
	Disc distinction state	Cartridge disc state	Cartridge disc state	Di
00	OK	With cartridge	Has not been opened yet.	12 cm
10	OK	With cartridge	Has not been opened yet.	8 cm
20	OK	With cartridge	Has been opened.	12 cm
30	OK	With cartridge	Has been opened.	8 cm
40	OK	Bare	Has not been opened yet.	12 cm
50	OK	Bare	Has not been opened yet.	8 cm
60	OK	Bare	Has been opened.	12 cm
70	OK	Bare	Has been opened.	8 cm
80	NG	With cartridge	Has not been opened yet.	12 cm
90	NG	With cartridge	Has not been opened yet.	8 cm
A0	NG	With cartridge	Has been opened.	12 cm
B0	NG	With cartridge	Has been opened.	8 cm
C0	NG	Bare	Has not been opened yet.	12 cm
D0	NG	Bare	Has not been opened yet.	8 cm
E0	NG	Bare	Has been opened.	12 cm
F0	NG	Bare	Has been opened.	8 cm

10. SELF-DIAGNOSIS AND SPECIAL MODE SETTING

10.1. SELF-DIAGNOSIS FUNCTIONS

Self-Diagnosis Function provides information for errors to service personnel by “Self-Diagnosis Display”

when any error has occurred.

U**, H** and F** are stored in memory and held.

You can check latest error code by transmitting [0] [1] of Remote Controller in Service Mode.

Automatic Display on FL will be cancelled when the power is turned off or AC input is turned off during self-diagnosis display is ON.

Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL
U30	Remote control code error	Display appears when main unit and remote controller codes are not matched.	No display	<div>REMOTE</div> <p>“*” is remote code of the main unit. Display for 5 seconds.</p>
U59	Abnormal inner temperature detected	Display appears when the drive temperature exceeds 70°C. The power is turned off forcibly. For 30 minutes after this, all key entries are disabled. (Fan motor operates at the highest speed for the first 5 minutes. For the remaining 25 minutes, fan motor is also stopped.) The event is saved in memory as well.	No display	<div></div> <p>“U59 is displayed for 5 minutes.</p>
U80	ST Microprocessor Communication Error on Timer Bus	Displayed appears when ST Microprocessor Communication Error on Timer Bus occurs.	No display	<div></div> <p>“U80” is displayed. Power Key is pressed.</p>
U81	ST Microprocessor Communication Error on UART	Displayed appears when ST Microprocessor Communication Error on UART occurs.	No display	<div></div> <p>“U81” is displayed. Power Key is pressed.</p>

Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL
U99	Hang-up	Displayed when communication error has occurred between Main microprocessor and Timer microprocessor.	No display	<div></div> Displayed is left [POWER] key is
H19	Inoperative fan motor	When inoperative fan motor is detected after powered on, the power is turned off automatically. The event is saved in memory.	No display	No display
F00	No error information	Initial setting for error code in memory (Error code Initialization is possible with error code initialization and main unit initialization.)	No display	No display
F58	Drive hardware error	When drive unit error is detected, the event is saved in memory.	No display	No display
F34	Initialization error when main microprocessor is started up for program recording	When initialization error is detected after starting up main microprocessor for program recording, the power is turned off automatically. The event is saved in memory.	No display	No display
UN-SUPPORT	Unsupported disc error	*An unsupported format disc was played, although the drive starts normally. *The data format is not supported, although the media type is supported. *Exceptionally in case of the disc is dirty.	"This disc is incompatible."	<div>UNSUP</div> Display for 5 sec
NO READ	Disc read error	*A disc is flawed or dirty. *A poor quality failed to start. *The track information could not be read.	"Cannot read. Please check the disc."	<div>NO</div>
HARD ERR	Drive error	The drive detected a hard error.	"DVD drive error."	Display for 5 sec <div>HAR</div>

Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL
SELF CHECK	Restoration operation	<p>Since the power cord fell out during a power failure or operation, it is under restoration operation.</p> <p>*It will OK, if a display disappears automatically. If a display does not disappear, there is the possibility that defective Digital P.C.B. / RAM drive.</p>	No display	SELF
Full Program	32 programs are already set.	32 programs are already set.	No display	PROG
UN-FORMAT	Unformatted disc error	<p>You have inserted an unformatted DVD-RAM or DVD-RW that is unformatted or recorded on other equipment.</p> <p>If you will use this disc, format is necessary.</p> <p>But, all program recorded on this disc will be deleted.</p>	<p>Format: This disc is not formatted properly.</p> <p>Format the disc in DISK MANAGEMENT?</p>	UNFO
PLEASE WAIT	Unit is in termination process	<p>Unit is in termination process now.</p> <p>“BYE” is displayed and power will be turned off.</p> <p>In case “Quick Start” of setup menu is ON, it is displayed in restoration operation for AC off.</p>	No display	PLEASE

10.2. SPECIAL MODES SETTING




Item		FL display	Key oper:
Mode name	Description		Front K
TEST Mode	*All the main unit's parameters (include tuner) are initialized.	TEST RV1	Press [STOP], [and [OPEN/CLO simultaneously seconds when p off.
Rating password	The audiovisual level setting password is initialized to "Level 8".	INIT	Open the tray, a [REC] and [PLA simultaneously seconds. NOTE: Drive should be to DVD.
Service Mode	Setting every kind of modes for servicing. *Details are described in "Service Mode".	SERVICEMODE	When the power press [CH UP], [CLOSE] and [RE simultaneously seconds.
Forced disc eject	Removing a disc that cannot be ejected. The tray will open and unit will shift to P-off mode. *When Timer REC is ON or EXT-LINK is ON, execute " Forced disc eject " after releasing Timer REC or EXT-LINK. *This command is not effective during "Child lock" is ON. While Demonstration Lock is being set, this Forced disc eject function is not accepted. If this command was executed while TIMER REC is being set, TIMER REC setting will turn to OFF.	The display before execution leaves. *****	When the power press [STOP] ar keys simultaneously seconds.
Child lock/unlock	Set or release "Child Lock".	XHOLD	Press [ENTER] ; [RETURN] by re controller simul until [X-HOLD] i displayed.

Item		FL display	Key oper:
Mode name	Description		Front K
NTSC/PAL system select	To switch PAL/NTSC alternately.	The display before execution leaves. <div>*****</div>	While the power is in E mode), press [STOP] and [OPEN/CLOSE] simultaneously for 10 seconds.
Forced power-off	When the power button is not effective while power is ON, turn off the power forcibly. *When Timer REC is ON or EXT-LINK is ON, execute "Forced Power-off" after releasing Timer REC or EXT-LINK.	Display in P-off mode.	Press [Power] key for more than 10 seconds.
Aging	Perform sequence of modes as * Aging Description shown below continually. Caution: All programs in HDD and DVD-RAM disc will be deleted because Formatting is done once in Aging process.	Display following the then mode.	When the power is in E mode, press [STOP], [F] and [OPEN/CLOSE] simultaneously for 10 seconds and less than 10 seconds. NOTE1: If Unit has not started Aging mode by operations shown above, execute TEST MODE and re-execute operations shown above. (*All the main unit parameters including are initialized by mode.) NOTE2: If the unit has started Aging mode because of pressing [Power] key for over 10 seconds, turn off the power and re-execute this operation. *When releasing Aging mode, press [Power] key.



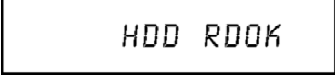
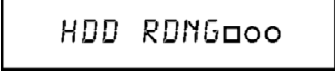
Item		FL display	Key oper:
Mode name	Description		Front K
Aging Contents (Example):			
<div><div><div>At start, and in the case that the memory remainder of HDD are 0</div><div>Format (DVD)</div><div>If the memory remainder of DVD only are 0</div><div>REC & PLAY (HDD)</div><div>If the memory remainder of DVD, HDD are 0</div></div><div><div>At start, and in the case that the memory remainder of HDD are 0</div><div>Format (HDD)</div><div>REC & PLAY (HDD)</div><div>REC & PLAY (DVD)</div><div>REC: (HDD) & PLAY: (DVD) *1</div><div>REC: (DVD) & PLAY: (HDD) *2</div><div>REC & PLAY (HDD) → REC (HDD) & PLAY (DVD) *3</div></div></div> <div>*1 : REC: (HDD) & PLAY: (DVD) content of operation HDD→REC, DVD→PLAY, CUE, REV, PLAY, PAUSE, SLOW, R-SLOW, PLAY, PROGRAM NAVI *2 : REC: (DVD) & PLAY: (HDD) content of operation DVD→REC, HDD→PLAY, CUE, REV, PLAY, PAUSE, SLOW, R-SLOW, PLAY, PROGRAM NAVI, TRAY OPEN/CLOSE *3 : REC & PLAY (HDD)→REC (HDD) & PLAY (DVD) content of operation HDD→REC & PLAY, DVD→PLAY, TRAY OPEN/CLOSE</div>			
Demonstration lock/unlock	Ejection of the disc is prohibited. The lock setting is effective until unlocking the tray and not released by “Main unit initialization” of service mode.	*When lock the tray. <div><div>LOCK</div><div>“LOCK” is displayed for 3 seconds.</div></div>	When the power press [STOP] ar [POWER] keys simultaneously seconds.
		*When unlock the tray. <div><div>UNLOCK</div><div>“UNLOCK” is displayed for 3 seconds.</div></div>	When the power press [STOP] ar [POWER] keys simultaneously seconds.
		*When press OPEN/ CLOSE key while the tray being locked. <div><div>LOCK</div><div>Display “LOCK” for 3 seconds.</div></div>	Press [OPEN/CI while the tray be locked.
ATP re-execution	Re-execute ATP.	Display at ATP executing. <div><div>*****</div></div>	When the power E mode), press and [CH DOWN] simultaneously seconds.
Progressive initialization	The progressive setting is initialized to Interlace.	The display before execution leaves. <div><div>*****</div></div>	When the power E mode), press and [PLAY] simultaneously seconds.

10.3. SERVICE MODES

Service mode setting: While the power is off, press REC, CH UP and OPEN / CLOSE simultaneously for five seconds.

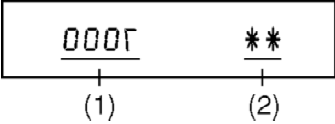
Item		FL display	Key oper: (Remote contr
Mode name	Description		
Release Items	Item of Service Mode executing is cancelled.	SERVICE MODE	Press [0] [0] or service mode.
Error Code Display	Last Error Code of U/H/F held by Timer is displayed on FL. *Details are described in “Self-Diagnosis Functions”.	 *  shows U/H/F  shows number	Press [0] [1] in s mode
ROM Version Display	Region code, MAIN firm version, TIMER firm version and DRIVE firmware versions are displayed on FL for five seconds per each version in order, but ROM version will be left displayed.	REGION* MAIN ***** TIMER***** DRIVE **** ROM * *** “*” are version displays.	Press [0] [2] in s mode
White Picture Output	White picture is output as component Output from AV Decoder. *White picture (Saturation rate : 100%) *It is enable to switch Interlace/ Progressive by “I/P switch: [1] [4]”	*Initial mode is “Interlace”. WHITE I Switch Interlace/ Progressive WHITE P	Press [1] [1] in s mode. Press [1] [4] in V Picture Output r *I/P are switched alternately.

Item		FL display	Key oper:
Mode name	Description		(Remote contr
Magenta Picture Output	Magenta picture is output with Component Output from AV Decoder. *Magenta picture (Saturation rate: 100%) *It is enable to switch Interlace/ Progressive by "I/P switch: [1] [4]"	*Initial mode is "Interlace". <div>MAGE I</div>	Press [1] [2] in s mode.
		Switch Interlace/ Progressive <div>MAGE P</div>	Press [1] [4] in M Picture Output r *I/P are switch alternately.
RTSC Return in XP (A & V)	AV1 input signal is encoded (XP), decoded (XP) and output decoded signal to external without DISC recording and DISC playback.	Initial mode: EE2/ Interlace / XP/ Audio 48kHz <div>EE2 I XP 48</div>	Press [1] [3] in s mode.
		Switch Interlace/ Progressive <div>EE2 P XP 48</div>	Press [1] [4] in F Return XP mode *I/P are switch alternately.
		Audio 44.1 kHz/ 48 kHz Switch <div>EE2 P XP 44</div>	Press [2] [4] in F Return XP mode *48 kHz / 44.1 kHz switched alternately.
I/P Switch	Switch Interlace and Progressive in EE mode. *Initial setting is "Interlace". *This command is effective during executing "White Picture Output", "Magenta Picture Output" and "RTSC Return in XP (A & V)" modes.	Initial mode is Interlace <div>SERVICE I</div> Switch Interlace/ Progressive <div>SERVICE P</div>	Press [1] [4] in I mode. *I/P are switch alternately.
DVB signals out	Colourbar picture is output with YC output from IRD decoder.	<div>DVB BAR</div>	Press [1] [5] in s mode.
Audio Mute (XTMUTE)	Check whether mute is applied normally by the timer microprocessor.	<div>TIMER MUTE</div>	Press [2] [1] in s mode.
Audio Mute (XDMUTE)	Check whether mute is applied normally by the Digital P.C.B..	<div>MAIN MUTE</div>	Press [2] [2] in s mode.

Item		FL display	Key oper:
Mode name	Description		(Remote contr
Audio Pattern Output	The audio pattern stored in the internal memory is output (Lch: 1kHz/-18dB) (Rch: 400Hz/-18dB) *Audio sound clock switching operation of DAC can be confirmed by sub command [2] [4].	Initial mode (Audio 48kHz) 	Press [2] [3] in s mode.
		Audio 44.1kHz/48kHz switching 	Press [2] [4] in / Pattern Output i *48 kHz / 44.1 kHz switched altern:
HDD READ inspection	Perform a complete read inspection of the HDD.	<p>When the HDD is OK </p> <p>If the HDD is defective </p> <p>□ : Judge of Forward rate. * When normal (Forward rate is 35 Mbps or more and there is no HDD error): □ is Space. * When Abnormal (Forward rate is less than 35 Mbps or HDD error existing): □ is X. ○○ : Number of what have spent time for seeking is over 100ms. * When normal: ○○ are spaces. * When Abnormal: Display Number of what have spent time fore seeking over 100 ms. However, if the number is more than 100, display [XX]. We judge it is normal that the number is less than 4.</p>	<p>Press [3] [1] in t mode. * When cancelin checking mode executing, do “f power-off”.</p> <p>Method: Press t “POWE” button than 10 seconds</p>

Item		FL display	Key oper:
Mode name	Description		(Remote contr
Laser Used Time Indiction	Check laser used time (hours) of drive.	<div>LASER*****</div> <ul style="list-style-type: none"> ● (*****) is the used time display in hour. ● Laser used time of DVD / CD in Playback/ Recording mode is counted. 	Press [4] [1] in s mode.
Delete the Laser Used Time	Laser used time stored in the memory of the unit is deleted.	<div>CLR LASER</div>	Press [9] [5] in s mode.

Item		FL display	Key oper:
Mode name	Description		(Remote contr
RAM Drive Last Error	<p>RAM Drive error code display.</p> <p>*For details about the drive error code, refer to the Service Manual for the specific RAM Drive.</p> <p>*Details are described in "Service Explorer".</p>	<p>1. Error Number is displayed for 5 seconds.</p> <div>NO **</div> <p>2. Time when the error has occurred is displayed for 5 seconds.</p> <div>YMMDDHHMMSS</div> <p>Y: Year MM: Month DD: Day hh: Hour mm: Minute ss: Second</p> <p>3. Last Drive Error (1/2) is displayed for 5 seconds.</p> <div>*****</div> <p>4. Last Drive Error (2/2) is displayed for 5 seconds.</p> <div>*****</div> <p>5. Error occurring Disc type is displayed for 5 seconds.</p> <div>MEDIA*****</div> <p>6. Disc Maker ID is displayed for 5 seconds.</p> <div>*****</div> <p>7. Factor of Drive Error occurring is left displayed</p> <div>IFD*****</div>	<p>Press [4] [2] in s mode.</p> <p>When "INFO****" being displayed, past histories can be by pressing [0] [1]</p> <p>In case that the cannot be identi display is black</p>

Item		FL display	Key operation (Remote control)
Mode name	Description		
Delete the Last Drive Error	Delete the Last Drive Error information stored on the DVD RAM-Drive.	CLR DRIVE	Press [9] [6] in setup mode.
Turn on all FL/LEDs	All segments of FL and all LEDs are turned on.	All segments are turned on.	Press [5] [1] in setup mode.
PB HIGH Signal Output	8 pin of AV 1 Jack (PB HIGH terminal) is High (approx. 11V DC).	PBB HIGH	Press [5] [2] in setup mode.
PB MIDDLE Signal Output	8 pin of AV 1 Jack (PB HIGH terminal) is Middle (approx. 5.5V DC).	PBB MIDDLE	Press [5] [3] in setup mode.
Front connection inspection	Press all front keys and check the connection between Main P.C.B. and Front key Switches.	 <p>(1) Each time a key is pressed, segment turned on increases one by one. (2) Total number of keys that have been pressed.</p>	Press [5] [4] in setup mode.
Production Date Display	Display the date when the unit was produced.	PD YYYYMMDD YYYY: Year MM: Month DD: Day	Press [6] [1] in setup mode.
Display the accumulated working time	Display the accumulated unit's working time.	*****5 (Indicating unit: Second)	Press [6] [4] in setup mode.

Item		FL display	Key oper:
Mode name	Description		(Remote contr
Display the Error History	Display the Error History stored on the unit.	<p>Display reason of error for 5 seconds.</p> <div>FTREC***</div> <p>01: Defect of Digital P.C.B. (AV DEC / MAIN CPU) 02: Defect of RAM Drive. 03: Defect of Disc. 04: Defect of Digital P.C.B. or Communication Error. 05: Defect of Digital P.C.B. (AV DEC / MAIN CPU) 06: Defect of HDD.</p> <p>Display the time when the error has occurred for 5 seconds..</p> <div>YYMMDDHHMM</div> <p>YY: Year MM: Month DD: Day HH: Hour MM: Minute Accumulated working time till occurring of the error is left displayed.</p> <div>*****5</div> <p>(Indicating unit: Second)</p>	<p>Press [6] [5] in s mode.</p> <p>Then press [0] [the past 19 erro are displayed.</p>
Delete the Error History	Delete Error History information stored on the unit.	<div>CLR FTREC</div>	Press [9] [7] in s mode.

Item		FL display	Key oper:
Mode name	Description		(Remote contr
SD card WRITE check	Check SD card WRITE function with SD card slot.	<p>When the WRITE check is OK.</p> <div>SDCD OK</div> <p>When the WRITE check is NG.</p> <div>SDCD NG</div> <p>*Note: The image stored in the SD card will be erased.</p>	<p>Insert a SD card card slot, and p in service mode</p> <p>* Insert SD card power is off.</p> <p>* Check for [CAI display on the F and go on the p</p>
AV4(V) / AV1(RGB) I/O Setting	Set input to AV4 (V) and set output to AV1 (RGB) for I/O checking	<div>AV4V-AV1RGB</div>	Press [8] [0] in s mode.
AV2(Y/C) / AV1(V) I/O Setting	Set input to AV2 (Y/C) and set output to AV1 (V) for I/O checking	<div>AV2YC-AV1V</div>	Press [8] [1] in s mode.
AV2(V) / AV1(Y/C) I/O Setting	Set input to AV2 (V) and set output to AV1 (Y/C) for I/O checking	<div>AV2V-AV1YC</div>	Press [8] [2] in s mode.
AV2(RGB) / AV1(V) I/O Setting	Set input to AV2(RGB) and set output to AV1(V) for I/O checking	<div>AV2RGB-AV1V</div>	Press [8] [3] in s mode.
P50(H) Output	Timer Microprocessor IC7501-83 output High signal for AV1-pin 10 passing through inverter (approx. 0V DC at AV1-pin 10).	<p><div>P50 HIGHOUT</div></p> <p>When OK.</p> <div>P50 HIGH OK</div> <p>When NG.</p> <div>P50 HIGH NG</div>	Press [8] [4] in s mode.

Item		FL display	Key operation (Remote controller)
Mode name	Description		
P50(L) Output	Timer Microprocessor IC7501-83 output Low signal for AV1-pin 10 passing through inverter (approx. 4.4V DC at AV1-pin 10).	<div>P50 LOW OUT</div> <p>When OK.</p> <div>P50 LOW OK</div> <p>When NG.</p> <div>P50 LOW NG</div>	Press [8] [5] in service mode.
Tray OPEN/CLOSE Test	The RAM drive tray is opened and closed repeatedly.	<div>NO*****</div> <p>“*” is number of open/close cycle times.</p>	Press [9] [1] in service mode *When releasing service mode, press the button of Remote Controller more than 5 seconds.
Error code initialization	Initialization of the last error code held by timer (Write in F00)	<div>CLR E-CODE</div>	Press [9] [8] in service mode.
Initialize Service	Last Drive Error, Error history and Error Codes stored on the unit are initialized to factory setting.	<div>CLR SERV</div>	Press [9] [9] in service mode.
Finishing service mode	Release Service Mode.	<p>Display in STOP (E-E) mode.</p> <div>*****</div>	Press power button on the front panel of the controller in service mode.

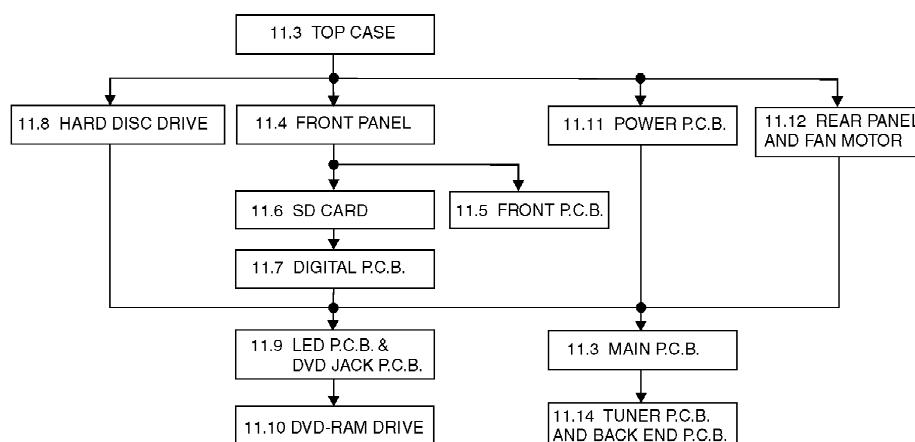
11. ASSEMBLING AND DISASSEMBLING

Caution: Original screws should be used.

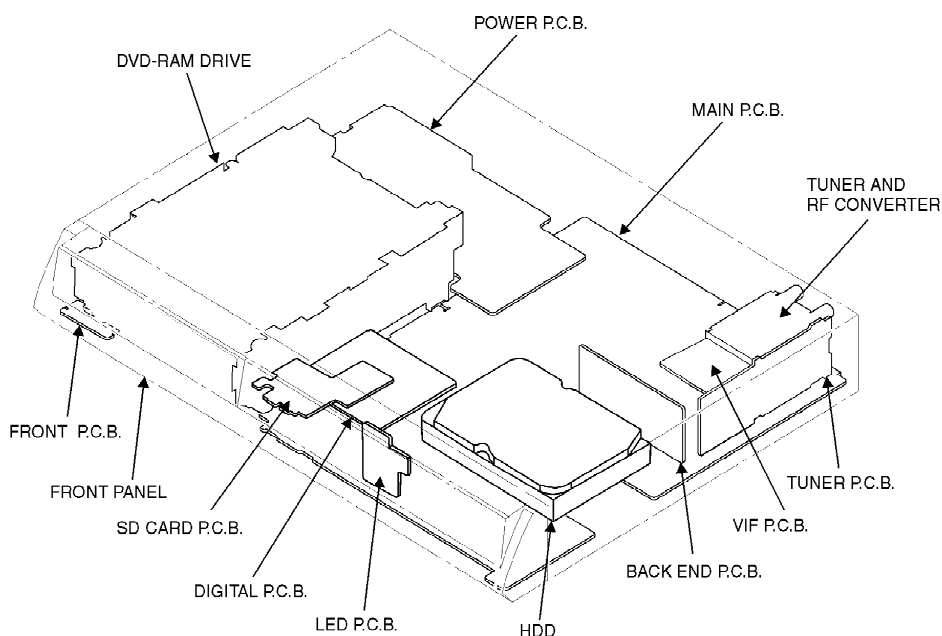
11.1. DISASSEMBLY FLOW CHART

This chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

To assemble the unit, reverse the steps shown in the chart below.

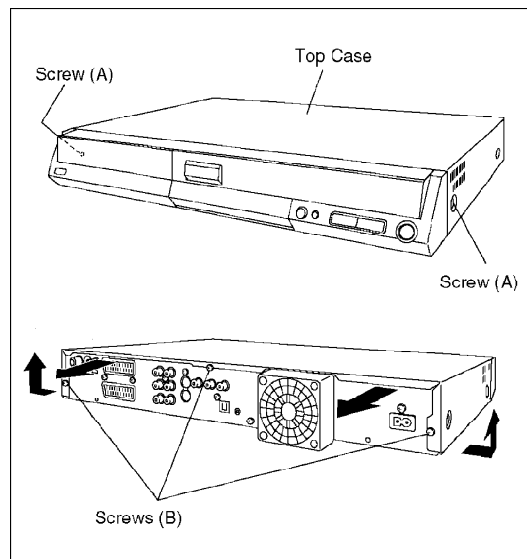


11.2. P.C.B. POSITIONS



11.3. TOP CASE

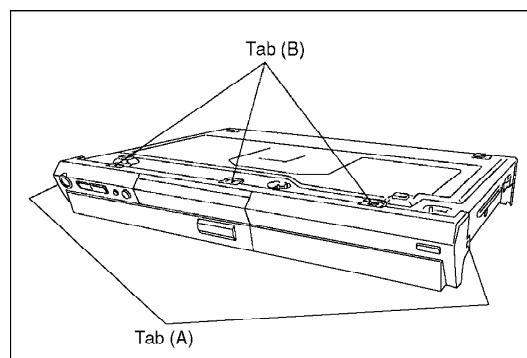
1. Remove the 2 screws (A) and 3 screws (B).
2. Slide Top Case rearward and open the both ends at rear side of the Top Case a little and lift the Top Case in the direction of the arrows.



11.4. FRONT PANEL

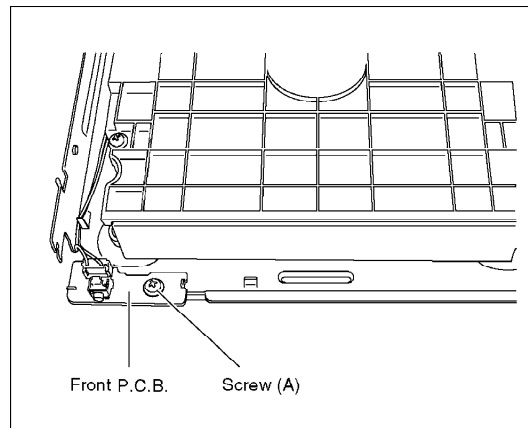
1. Unlock 2 tabs (A) and 3 tabs (B) in this order to remove Front Panel.

The tab (A) and (B) should be unlocked at the same time, respectively.



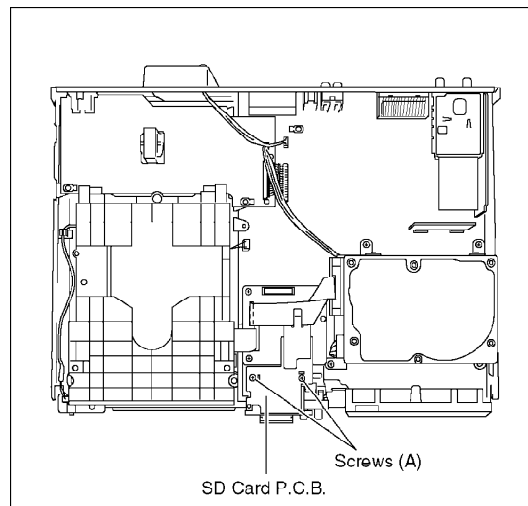
11.5. FRONT P.C.B.

1. Remove the Screw (A) to remove Front P.C.B. .



11.6. SD CARD P.C.B.

1. Remove 2 Screws (A) to remove SD Card P.C.B. .



11.7. DIGITAL P.C.B.

Note:

When replacing the Digital P.C.B., “UNFORMAT” indication is displayed and HDD must be formatted.

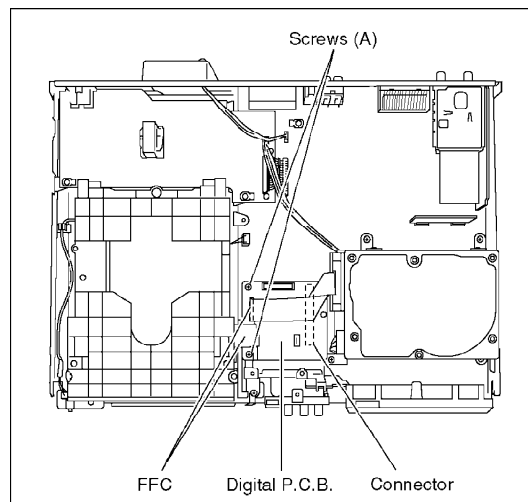
After that all programme in the HDD will be lost.

How to format the HDD.

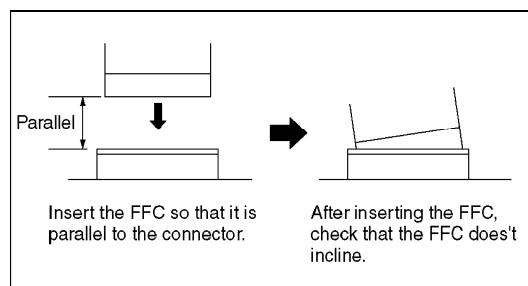
- After “UNFORMAT” is displayed on the FL display, / warning message for HDD format is appeared on the / TV screen.
- Select “YES” and press “ENTER” button on the / remote control; the HDD will be formatted automatically.

1. Remove 2 FFCs and 2 Screws (A).

2. Lift up Digital P.C.B. slightly so to disconnect Connector to remove Digital P.C.B.



Caution:
When replacing Digital P.C.B., pay attention as below.



11.8. HARD DISC DRIVE

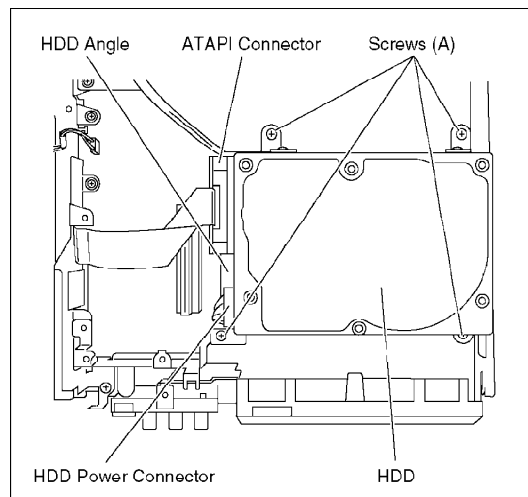
Note:

When replacing with Digital P.C.B., "UNFORMAT" indication is displayed and HDD (HARD DISC DRIVE) must be formatted.

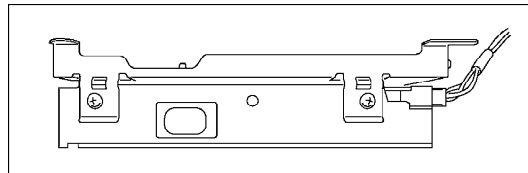
After that all programme in the HDD will be lost.

How to format the HDD.

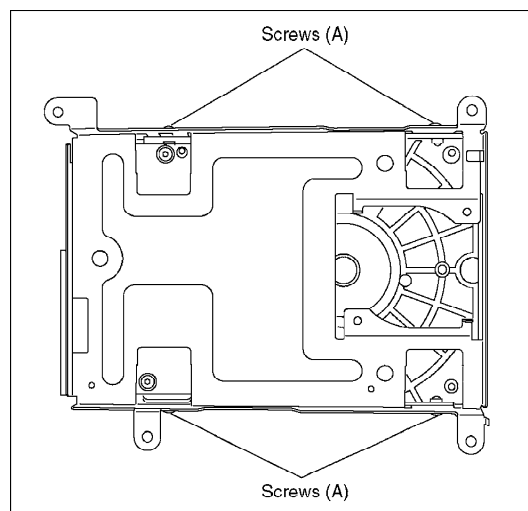
- After "UNFORMAT" is displayed on the FL display, / warning message for HDD format is appeared on the / TV screen.
 - Select "YES" and press "ENTER" button on the / remote control; the HDD will be formatted automatically.
1. Remove ATAPI Connector and HDD Power Connector.
 2. Remove 4 Screws (A) to remove HDD Angle with HDD.



3. Put HDD with HDD Angle up and down inversely so as not to give a shock to HDD.

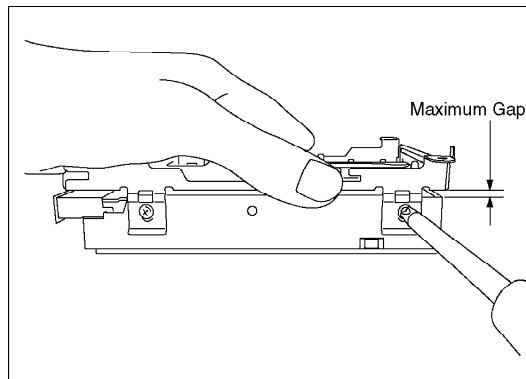


4. Remove 4 screws to remove HDD.



Caution for Attaching HDD

Put HDD up and down inversely so as not to give a shock to HDD, and put HDD Angle on to HDD and tighten 4 screws while lifting HDD Angle so as to keep maximum gap between HDD and HDD Angle.



Handling of HDD

The following precautions should be taken when handling HDD.

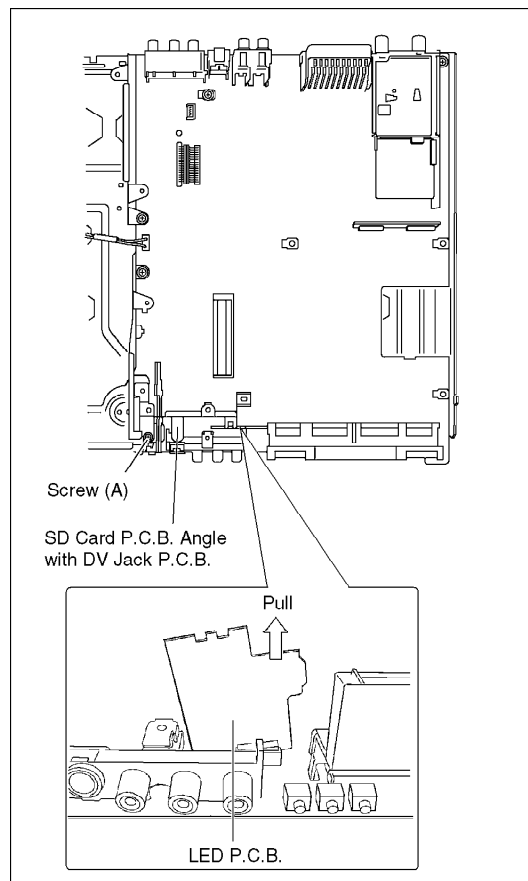
1. Never give an impact to HDD. (Even a drop from 1 cm height can be a cause of HDD failure).
2. When placing HDD on a workbench, provide a mat on a bench for shock absorption and anti-static purposes.
3. When installing HDD, release it from your hands only after confirming that it is fully set on the chassis.
4. Avoid stacking up HDD.
5. HDD is unstable and easy to fall. Do not stand it on its side face.
6. When handling HDD, hold its side faces to avoid static hazard.
7. Do not place HDD on its wrapping bag after removal.
(Prevention of static hazard.)
8. Use a screwdriver with low impact and anti-static features.

Note:

When replacing HDD, please make the rear jumper slave or cable select configuration.

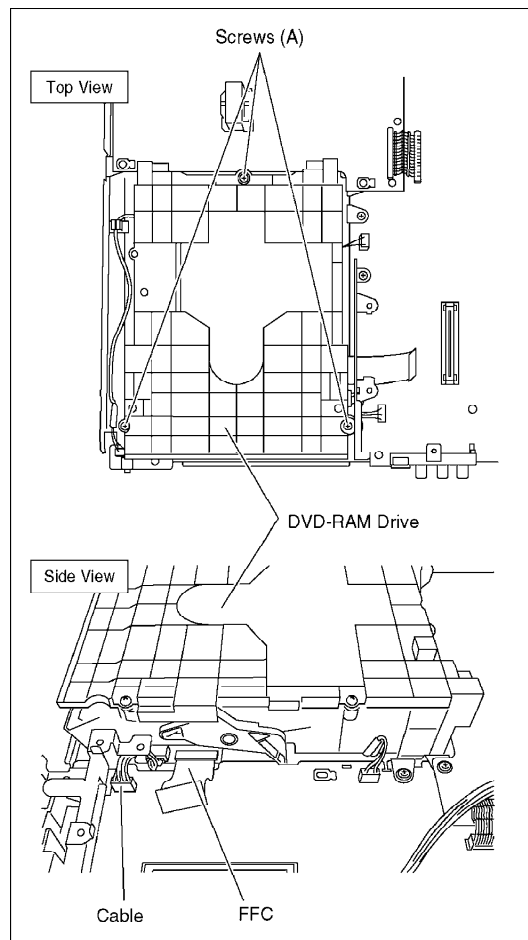
11.9. LED P.C.B. & DV JACK P.C.B.

1. Remove a Screw (A) to remove SD Card P.C.B.
Angle with DV Jack P.C.B.
2. At first disconnect the connector on one side as shown below, and pull out LED P.C.B.



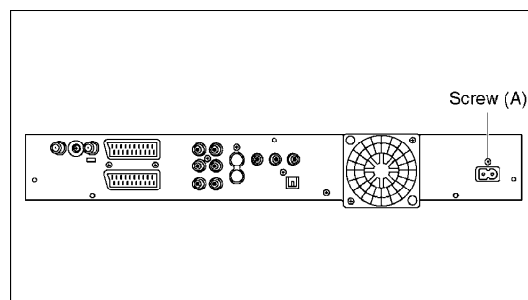
11.10. DVD-RAM DRIVE

1. Remove 3 Screws (A) to remove DVD-RAM Drive.
2. Lift up DVD-RAM Drive slightly and remove FFC and remove Cable between DVD-RAM Drive and Main P.C.B.



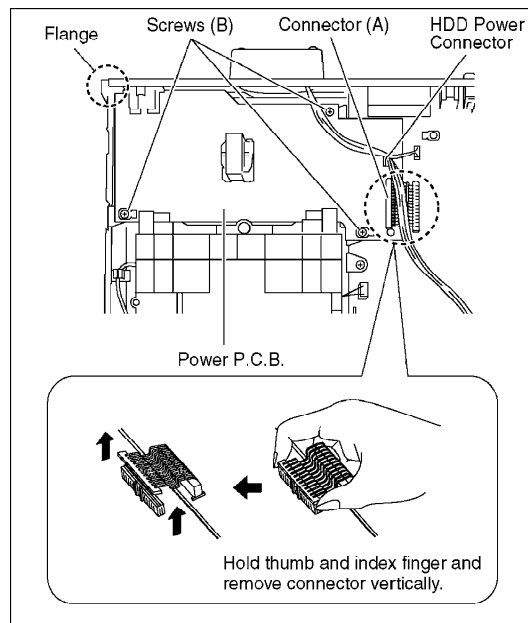
11.11. POWER P.C.B.

1. Remove Screw (A).



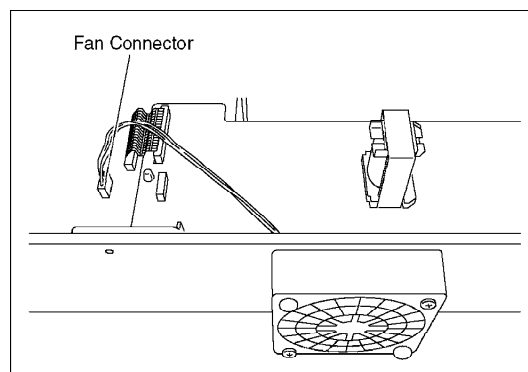
2. Remove 3 Screws (B) and disconnect Connector (A) and HDD Power Connector.

3. Unlock Power P.C.B. from a Flange to remove Power P.C.B.

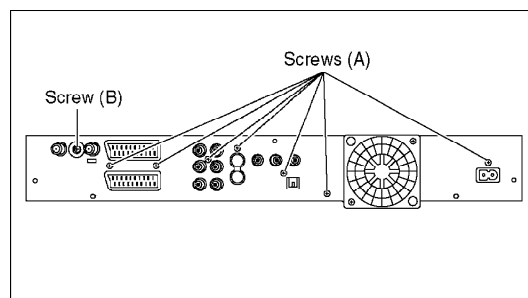


11.12. REAR PANEL

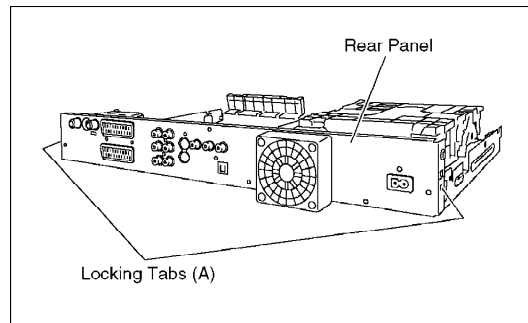
1. Disconnect Fan Connector.



2. Unlock 2 Locking Tabs (A) to remove Rear Panel.

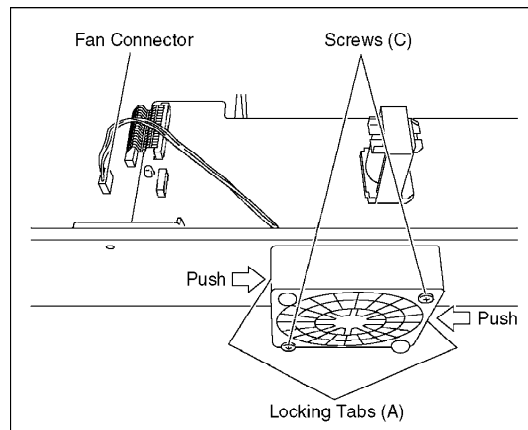


3. Unlock 2 Locking Tabs (A) to remove Rear Panel.



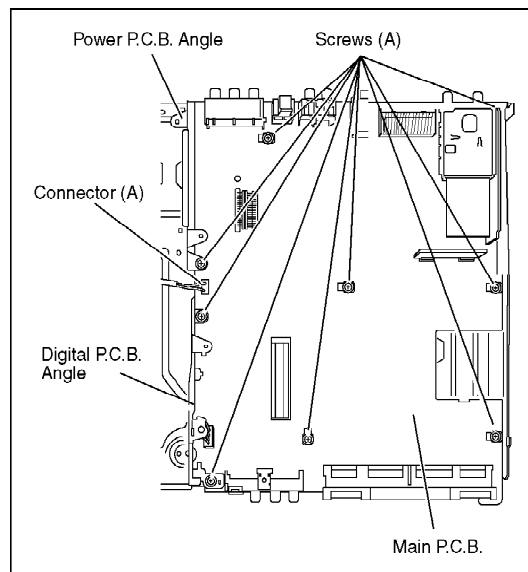
11.12.1. FAN MOTOR

1. Disconnect Fan Connector and remove 2 Screws (C).
2. Push and unlock 2 locking Tabs (A) to remove Fan Motor.
3. Unlock the 2 Tabs and remove the Fan Motor Unit.



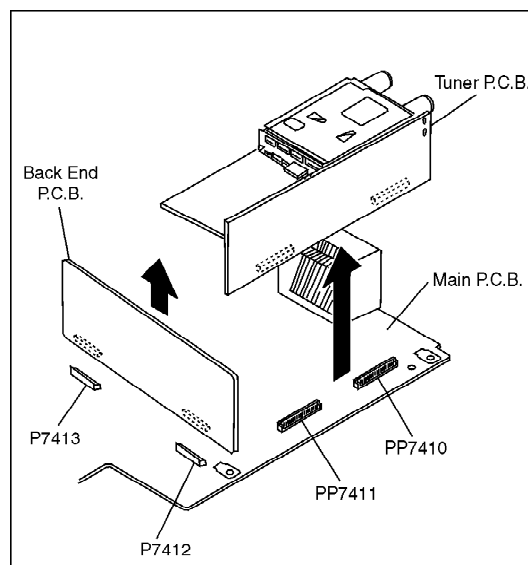
11.13. MAIN P.C.B.

1. Disconnect Connector (A) for Front (L) P.C.B.
2. Remove 5 Screws (A).
3. Remove Digital P.C.B. Angle and SD Card P.C.B. Angle with DV Jack P.C.B. and disconnect Connector (A) to remove Main P.C.B.



11.14. TUNER P.C.B. / AND BACK END P.C.B.

1. Pull out the Tuner P.C.B. in the direction of the arrow.
2. Pull out the Back End P.C.B. in the direction to the arrow.



12. SERVICE FIXTURE AND TOOLS

Part Number	Description	Compatibility
RFKZ0125	Extension FFC (Digital P.C.B. - DVD-RAM Drive / 40 Pin)	Same as E30/HS2/E! ES10 series
RFKZ0126	Extension Cable (Main P.C.B. - DVD-RAM Drive/ 4 Pin)	Same as E30/HS2/E! series
RFKZ0216	Extension Cable (Main P.C.B. - Power P.C.B. / 23 Pin)	Same as E50/EH55 s

13. SERVICE POSITIONS

Note:

For description of the disassembling procedure, see the section 10.

13.1. CHECKING AND REPAIRING OF POWER P.C.B.

1. Top Case

- Remove 2 Screws (A) on side
- Remove 3 rear Screws (B) on rear
- Remove Top Case

2. Power P.C.B.

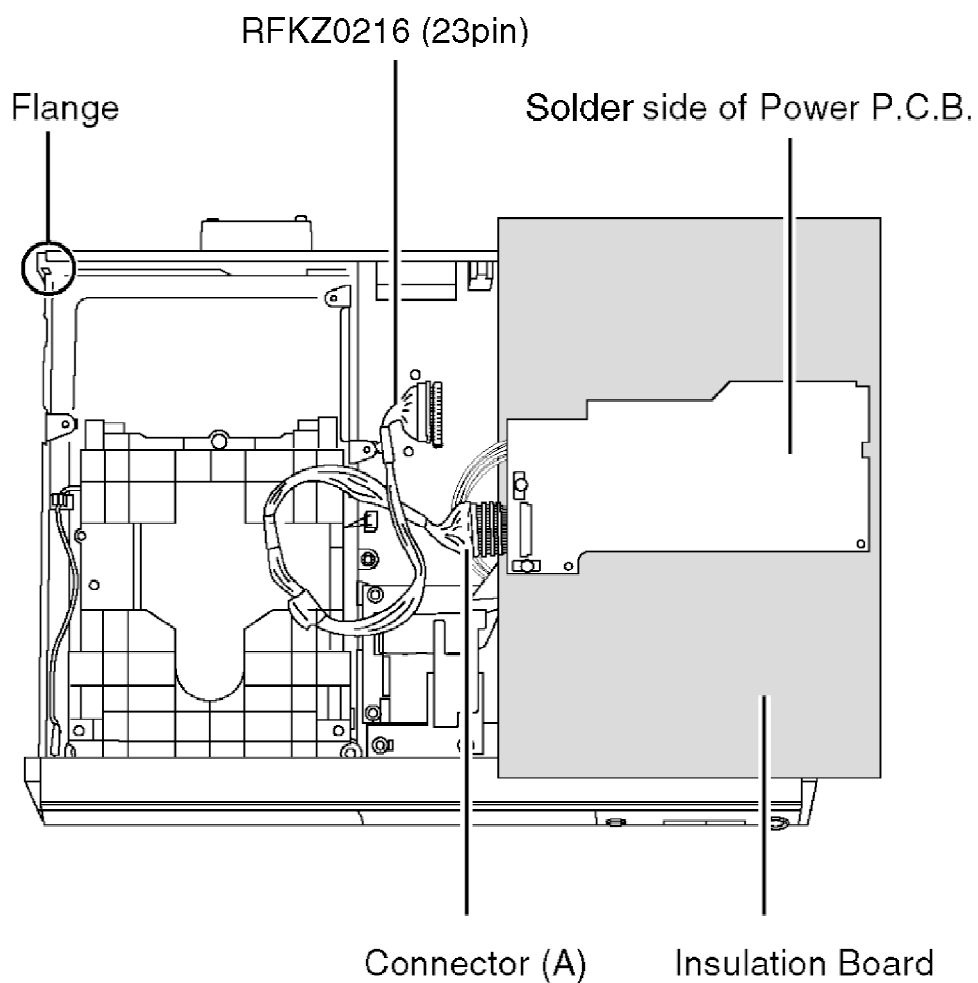
- Remove 1 Screw for AC Inlet fixing
- Remove 3 Screws fixing Power P.C.B.
- Remove Connector (A) to Main P.C.B.
- Unlock Power P.C.B. from a Flange to remove Power P.C.B.
- Connect Extension Cable:
 - between Main P.C.B. and Power P.C.B. with RFKZ0216
- Put Power P.C.B. on Insulation Board so that it's solder side faces top

Caution 1

Red wire in the extension cable should be connected to (1) pin

Caution 2

Original screws should be used



13.2. CHECKING AND REPAIRING OF MAIN P.C.B.

1. Top Case

- Remove 2 Screws (A) on side
- Remove 3 rear Screws (B) on rear
- Remove Top Case

2. Front Panel

- Unlock 2 Locking Tabs on side
- Unlock 3 Locking Tabs on bottom
- Remove Front Panel

3. Fan Motor

- Remove 2 Screws fixing Fan Motor
- Disconnect Fan Cable Connector
- Unlock 2 Locking Tabs to remove Fan Motor

4. Rear Panel

- Remove 8 Screws (one is for Tuner)
- Unlock 2 Locking Tabs on side
- Remove Rear Panel

5. Power P.C.B.

- Remove 3 Screws fixing Power P.C.B.
- Remove Connector (A) to Main P.C.B.
- Unlock Power P.C.B. from a Flange to remove Power P.C.B.

6. SD Card P.C.B.

- Remove 2 Screws
- Remove SD Card P.C.B.

7. Digital P.C.B.

- Remove FFC from Digital P.C.B.
- Remove 2 Screws fixing Digital P.C.B.
- Lift up Digital P.C.B. slightly to remove it

8. HARD DISC DRIVE

- Remove 4 Screws fixing HDD Angle to remove it from the HARD DISC DRIVE

9. Digital P.C.B. Angle & SD Card P.C.B. Angle with DV Jack P.C.B.

- Remove 3 Screws to remove Digital P.C.B. Angle and SD Card P.C.B. Angle with DV Jack P.C.B.

10. DVD-RAM Drive

- Remove Cable between DVD-RAM Drive and Main P.C.B.
- Remove 3 Screws fixing DVD-RAM Drive
- Lift up DVD-RAM Drive to remove it
- Remove FFC from DVD-RAM Drive

11. Main P.C.B.

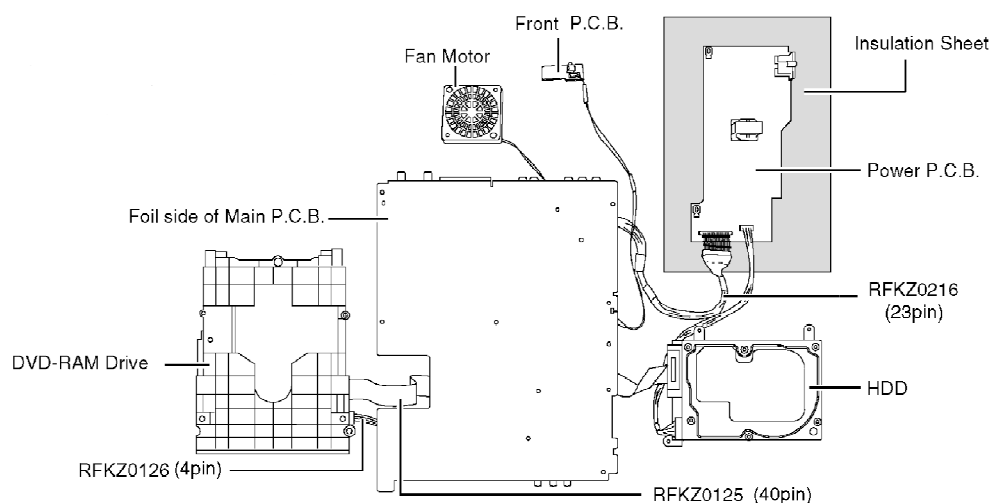
- Remove the Screw to remove Front (L) P.C.B.
- Unlock Clamper for Main-Front (L) Cable
- Remove 2 Screws to remove Main P.C.B.
- Attach Digital P.C.B. on to Main P.C.B.
Connect Fan Connector.
Connect Extension Cable:
 - between Main P.C.B. and DVD-RAM Drive / with RFKZ0126
 - between Digital P.C.B. and DVD-RAM Drive / with RFKZ0125
 - between Main P.C.B. and Power P.C.B. / with RFKZ0216

Caution 1

Red wire in the extension cable should be connected to (1) pin.

Caution 2

Original screws should be used.



13.3. CHECKING AND REPAIRING OF DVD-RAM DRIVE

1. Top Case

- Remove 2 Screws (A) on side**
- Remove 3 rear Screws (B) on rear**
- Remove Top Case**

2. Front Panel

- Unlock 2 Locking Tabs on side**
- Unlock 3 Locking Tabs on bottom**
- Remove Front Panel**

3. SD Card P.C.B.

- Remove 2 Screws**
- Remove SD Card P.C.B.**

4. Digital P.C.B.

- Remove FFC from Digital P.C.B.**
- Remove 2 Screws fixing Digital P.C.B.**
- Lift up Digital P.C.B. slightly to remove it**

5. HDD

- Remove 4 Screws fixing HDD Angle to remove it with HDD**

6. SD Card P.C.B. Angle with DV Jack P.C.B.

- Remove a Screw to remove SD Card P.C.B. Angle with DV Jack P.C.B.**

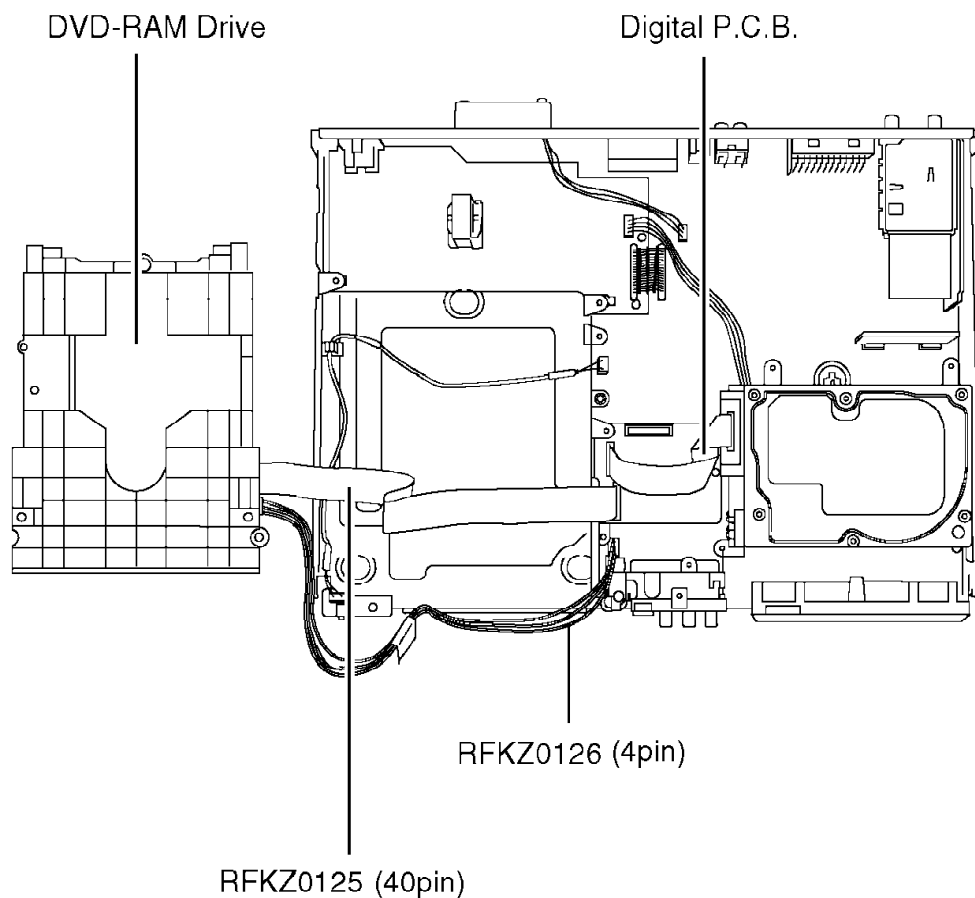
7. DVD-RAM Drive

- Remove 3 Screws fixing DVD-RAM Drive**
- Lift up DVD-RAM Drive slightly and remove FFC from DVD-RAM Drive and remove Cable between DVD-RAM Drive and Main P.C.B.**

- Remove FFC from DVD-RAM Drive
- Attach Digital P.C.B.
Put DVD-RAM Drive on side.
Connect Extension Cable:
 - between Main P.C.B. and DVD-RAM Drive / with RFKZ0126
 - between Digital P.C.B. and DVD-RAM Drive / with RFKZ0125

Caution

Original screws should be used.



13.4. CHECKING AND REPAIRING OF HDD

1. Top Case

- Remove 2 Screws (A) on side
- Remove 3 rear Screws (B) on rear

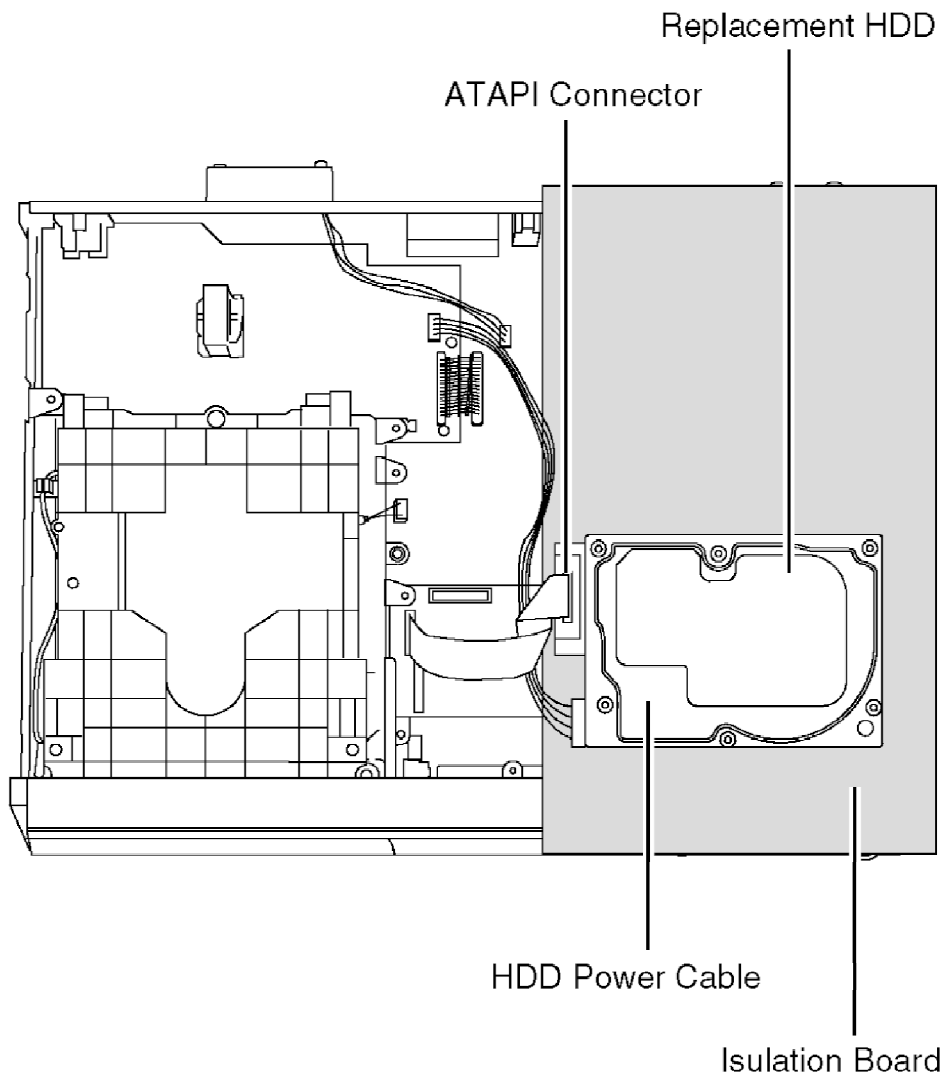
- Remove Top Case

2. HDD

- Disconnect HDD ATAPI Connector
- Remove 4 Pin Power Cable from HDD
- Connect HDD ATAPI Connector to Replacement HDD
- Connect 4 Pin Power Cable to Replacement HDD
- Put Replacement HDD on Insulation Board

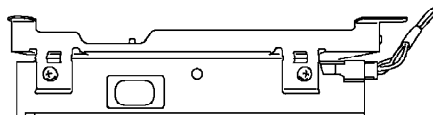
Caution

Original screws should be used.



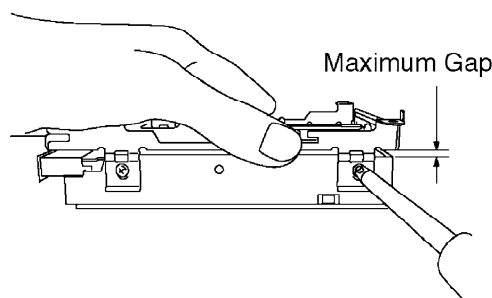
Caution for Removing HDD

Put HDD with HDD Angle up and down inversely and remove 4 screws to remove HDD so as not to give a shock to HDD.



Caution for Attaching HDD

Put HDD up and down inversely and put HDD Angle on to HDD and tighten 4 screws while lifting HDD Angle so as to keep maximum gap between HDD and HDD Angle.



14. CAUTION AFTER REPLACING PARTS

14.1. AFTER REPLACING THE DVD-RAM DRIVE WITH NEW ONE

After replacing RAM drive unit, TEST mode is not necessary. Please confirm operation for RAM drive.

14.2. WHEN THE UNIT DOES NOT OPERATE NORMALLY AFTER REPLACING THE TIMER MICROPROCESSOR OR MAIN P.C.B.

When the unit does not operate normally after replacing the Timer Microprocessor or Main P.C.B. with new one, reset Timer Microprocessor.

Step	Operation	Descriptions
1	While power is ON, short IC7502-4 pin (RESET) and the GND momentarily.	“RESET (L)” is transmitted to the XRI Timer Microprocessor (IC7501-11 pin), then operates normally.

15. STANDARD INSPECTION SPECIFICATIONS

AFTER MAKING REPAIRS

After making repairs, we recommend performing the following inspection, to check normal operation.

No.	Procedure	Item to Check
1	Turn on the power, and confirm items pointed out.	Items pointed out should reappear.
2	Insert RAM disc.	The Panasonic RAM disc should be r
3	Enter the EE (TU IN / AV IN - AV OUT) mode.	No abnormality should be seen in the sound or operation.
4	Perform auto recording and playback for one minute using the RAM disc.	No abnormality should be seen in the sound or operation. *Panasonic DVD-RAM disc should be when recording and playback.
5	Model with the HDD: Problem auto recording and playback for one minute using the HDD.	No abnormality should be seen in the sound or operation.
6	If a problem is caused by a VCD, DVD-R, DVD-Video, Audio-CD, or MP3, playback the test disc.	No abnormality should be seen in the sound or operation.
7	Models with SD Card Slot or DV Input Jack: In case of that the trouble is caused by SD card and/or DV terminal.	Models with SD Card Slot or DV Input 1) SD card: Check to be able to displa copy the picture. 2) DV terminal: Check to be able to re DVC.
8	After checking and making repairs, upgrade the firmware to the latest version.	Make sure that [FIRM_SUCCESS] app the FL displays. *[UNSUPPORT] display means the un already updated to newest same vers version up is not necessary.
9	Transfer [9][9] in the service mode setting, and initialize the service settings (return various settings and error information to their default values. The laser time is not included in this initialization).	Make sure that [CLR SERV] appears i display. After checking it, turn the power off.
10	When replacing of RAM drive, transfer [9] [5] in the service mode setting to delete Laser used time.	Make sure that [CLR LASER] appears display. After that, turn power off.

Use the following checklist to establish the judgement criteria for the picture and sound.

Item	Contents	Check	Item	Contents
Picture	Block noise		Sound	Distorted sound
	Crosscut noise			Noise (static, background noise, etc.)
	Dot noise			The sound level is too low.
	Picture disruption			The sound level is too high.
	Not bright enough			The sound level changes.
	Too bright			
	Flickering color			
	Color fading			

16. VOLTAGE AND WAVEFORM CHART

Note:

Circuit voltage and waveform described, shall be regarded as reference information when probing defect point, because it may differ from an actual measuring value due to difference of Measuring instrument and its measuring condition and product itself.

16.1. WAVEFORM CHART

17. ABBREVIATIONS

INITIAL/LOGO		ABBREVIATIONS
A	A0~UP	ADDRESS
	ACLK	AUDIO CLOCK
	AD0~UP	ADDRESS BUS
	ADATA	AUDIO PES PACKET DATA
	ALE	ADDRESS LATCH ENABLE
	AMUTE	AUDIO MUTE
	AREQ	AUDIO PES PACKET REQUEST
	ARF	
	ASI	AUDIO RF
	ASO	SERVO AMP INVERTED INPUT
	ASync	SERVO AMP OUTPUT
		AUDIO WORD DISTINCTION SYNC
B	BCK	BIT CLOCK (PCM)
	BCKIN	BIT CLOCK INPUT
	BDO	BLACK DROP OUT
	BLKCK	SUB CODE BLOCK CLOCK
	BOTTOM	CAP. FOR BOTTOM HOLD
	BYP	BYPATH
	BYTCK	BYTE CLOCK

INITIAL/LOGO		ABBREVIATIONS
C	CAV	CONSTANT ANGULAR
	CBDO	VELOCITY
	CD	CAP. BLACK DROP OUT
	CDSCK	COMPACT DISC
	CDSRDATA	CD SERIAL DATA CLOCK
		CD SERIAL DATA
	CDRF	CD RF (EFM) SIGNAL
	CDV	COMPACT DISC-VIDEO
	CHNDATA	CHANNEL DATA
	CKSL	SYSTEM CLOCK SELECT
	CLV	CONSTANT LINEAR VELOCITY
	COFTR	CAP. OFF TRACK
	CPA	CPU ADDRESS
	CPCS	CPU CHIP SELECT
	CPDT	CPU DATA
	CPUADR	CPU ADDRESS LATCH
	CPUADT	CPU ADDRESS DATA BUS
	CPUIRQ	CPU INTERRUPT REQUEST
	CPRD	CPU READ ENABLE
	CPWR	CPU WRITE ENABLE
	CS	CHIP SELECT
	CSYNCIN	COMPOSITE SYNC IN
	CSYNCOUT	COMPOSITE SYNC OUT
D	DACCK	D/A CONVERTER CLOCK
	DEEMP	DEEMPHASIS BIT ON/OFF
	DEMPH	DEEMPHASIS SWITCHING
	DIG0~UP	FL DIGIT OUTPUT
	DIN	DATA INPUT
	DMSRCK	DM SERIAL DATA READ
	DMUTE	CLOCK
	DO	DIGITAL MUTE CONTROL
	DOUT0~UP	DROP OUT
		DATA OUTPUT
	DRF	DATA SLICE RF (BIAS)
	DRPOUT	DROP OUT SIGNAL
	DREQ	DATA REQUEST
	DRESP	DATA RESPONSE
	DSC	DIGITAL SERVO CONTROLLER
	DSLIF	
	DVD	DATA SLICE LOOP FILTER
		DIGITAL VIDEO DISC

INITIAL/LOGO		ABBREVIATIONS
E	EC	ERROR TORQUE CONTROL
	ECR	ERROR TORQUE CONTROL REFERENCE
	ENCSEL	ENCODER SELECT
	ETMCLK	EXTERNAL M CLOCK (81MHz/40.5MHz)
	ETSCLK	EXTERNAL S CLOCK (54MHz)
F	FBAL	FOCUS BALANCE
	FCLK	FRAME CLOCK
	FE	FOCUS ERROR
	FFI	FOCUS ERROR AMP
	FEO	INVERTED INPUT
	FG	FOCUS ERROR AMP OUTPUT
	FSC	FREQUENCY GENERATOR
	FSCK	FREQUENCY SUB CARRIER FS (384 OVER SAMPLING) CLOCK
G	GND	COMMON GROUNDING (EARTH)
H	HA0~UP	HOST ADDRESS
	HD0~UP	HOST DATA
	HINT	HOST INTERRUPT
	HRXW	HOST READ/WRITE
I	IECOUT	IEC958 FORMAT DATA OUTPUT
	IPFRAG	INTERPOLATION FLAG
	IREF	I (CURRENT) REFERENCE
	ISEL	INTERFACE MODE SELECT
L	LDON	LASER DIODE CONTROL
	LPC	LASER POWER CONTROL
	LRCK	L CH/R CH DISTINCTION CLOCK

INITIAL/LOGO		ABBREVIATIONS
M	MA0~UP	MEMORY ADDRESS
	MCK	MEMORY CLOCK
	MCKI	MEMORY CLOCK INPUT
	MCLK	MEMORY SERIAL COMMAND
	MDATA	CLOCK
	MDQ0~UP	MEMORY SERIAL COMMAND
	MDQM	DATA
	MLD	MEMORY DATA INPUT/OUTPUT
	MPEG	
		MEMORY DATA I/O MASK MEMORY SERIAL COMMAND LOAD MOVING PICTURE EXPERTS GROUP
O	ODC	OPTICAL DISC CONTROLLER
	OFTR	OFF TRACKING
	OSCI	OSCILLATOR INPUT
	OSCO	OSCILLATOR OUTPUT
	OSD	ON SCREEN DISPLAY
P	P1~UP	PORT
	PCD	CD TRACKING PHASE
	PCK	DIFFERENCE
	PDVD	PLL CLOCK
	PEAK	DVD TRACKING PHASE
	PLLCLK /	DIFFERENCE
	PLLOK	CAP. FOR PEAK HOLD
	PWMCTL	CHANNEL PLL CLOCK
	PWMDA	PLL LOCK
	PWMOA, B	PWM OUTPUT CONTROL
		PULSE WAVE MOTOR DRIVE A PULSE WAVE MOTOR OUT A, B

INITIAL/LOGO		ABBREVIATIONS
R	RE	READ ENABLE
	RFENV	RF ENVELOPE
	RFO	RF PHASE DIFFERENCE
	RS	OUTPUT
	RSEL	(CD-ROM) REGISTER SELECT
	RST	RF POLARITY SELECT
	RSV	RESET RESERVE
S	SBI0, 1	SERIAL DATA INPUT
	SBO0	SERIAL DATA OUTPUT
	SBT0, 1	SERIAL CLOCK
	SCK	SERIAL DATA CLOCK
	SCKR	AUDIO SERIAL CLOCK
	SCL	RECEIVER
	SCLK	SERIAL CLOCK
	SDA	SERIAL CLOCK
	SEG0~UP	SERIAL DATA
	SELCLK	FL SEGMENT OUTPUT
	SEN	SELECT CLOCK
	SIN1, 2	SERIAL PORT ENABLE
	SOUT1, 2	SERIAL DATA IN
	SPDI	SERIAL DATA OUT
	SPDO	SERIAL PORT DATA INPUT
	SPEN	SERIAL PORT DATA OUTPUT
	SPRCLK	SERIAL PORT R/W ENABLE
	SPWCLK	SERIAL PORT READ CLOCK
	SQCK	SERIAL PORT WRITE CLOCK
	SQCX	SUB CODE Q CLOCK
	SRDATA	SUB CODE Q DATA READ
	SRMADR	CLOCK
	SRMDT0~7	SERIAL DATA
		SRAM ADDRESS BUS
	SS	SRAM DATA BUS 0~7
	STAT	START/STOP
	STCLK	STATUS
	STD0~UP	STREAM DATA CLOCK
	STENABLE	STREAM DATA
		STREAM DATA INPUT ENABLE
	STSEL	STREAM DATA POLARITY
	STVALID	SELECT
	SUBC	STREAM DATA VALIDITY
	SBCK	SUB CODE SERIAL
	SUBQ	SUB CODE CLOCK
	SYSCLK	SUB CODE Q DATA

		SYSTEM CLOCK
INITIAL/LOGO		ABBREVIATIONS
T	TE	TRACKING ERROR
	TIBAL	BALANCE CONTROL
	TID	BALANCE OUTPUT 1
	TIN	BALANCE INPUT
	TIP	BALANCE INPUT
	TIS	BALANCE OUTPUT 2
	TPSN	OP AMP INPUT
	TPSO	OP AMP OUTPUT
	TPSP	OP AMP INVERTED INPUT
	TRCRS	TRACK CROSS SIGNAL
	TRON	TRACKING ON
	TRSON	TRAVERSE SERVO ON

INITIAL/LOGO		ABBREVIATIONS
V	VBLANK	V BLANKING
	VCC	COLLECTOR POWER SUPPLY VOLTAGE
	VCDCONT	VIDEO CD CONTROL (TRACKING BALANCE)
	VDD	DRAIN POWER SUPPLY VOLTAGE
	VFB	VOLTAGE REFERENCE
	VREF	VIDEO FEED BACK
	VSS	VOLTAGE REFERENCE
		SOURCE POWER SUPPLY VOLTAGE
W	WAIT	BUS CYCLE WAIT
	WDCK	WORD CLOCK
	WEH	WRITE ENABLE HIGH
	WSR	WORD SELECT RECEIVER

INITIAL/LOGO		ABBREVIATIONS
X	X	X' TAL
	XALE	X ADDRESS LATCH ENABLE
	XAREQ	X AUDIO DATA REQUEST
	XCDROM	X CD ROM CHIP SELECT
	XCS	X CHIP SELECT
	XCSYNC	X COMPOSITE SYNC
	XDS	X DATA STROBE
	XHSYNCO	X HORIZONTAL SYNC OUTPUT
	XHINT	XH INTERRUPT REQUEST
	XI	X' TAL OSCILLATOR INPUT
	XINT	X INTERRUPT
	XMW	X MEMORY WRITE ENABLE
	XO	X' TAL OSCILLATOR OUTPUT
	XRE	X READ ENABLE
	XSRMCE	X SRAM CHIP ENABLE
	XSRMOE	X SRAM OUTPUT ENABLE
	XSRMWE	X SRAM WRITE ENABLE
	XVCS	X V-DEC CHIP SELECT
	XVDS	X V-DEC CONTROL BUS
	XVSYNCO	STROBE X VERTICAL SYNC OUTPUT

18. INTERCONNECTION

19. BLOCK DIAGRAM

19.1. POWER BLOCK DIAGRAM

19.2. ANALOG VIDEO BLOCK DIAGRAM

19.3. ANALOG AUDIO BLOCK DIAGRAM

19.4. TIMER BLOCK DIAGRAM

20. SCHEMATIC DIAGRAM

20.1. POWER SCHEMATIC DIAGRAM

20.2. MAIN NET

20.3. MAIN AV IO

20.4. MAIN TIMER

20.5. MAIN NICAM

20.6. TUNER

20.7. VIF UNIT

20.8. SD CARD

20.9. LED

20.10. FRONT

21. PRINTED CIRCUIT BOARD

21.1. POWER P.C.B.

21.2. MAIN P.C.B.

21.3. TUNER P.C.B.

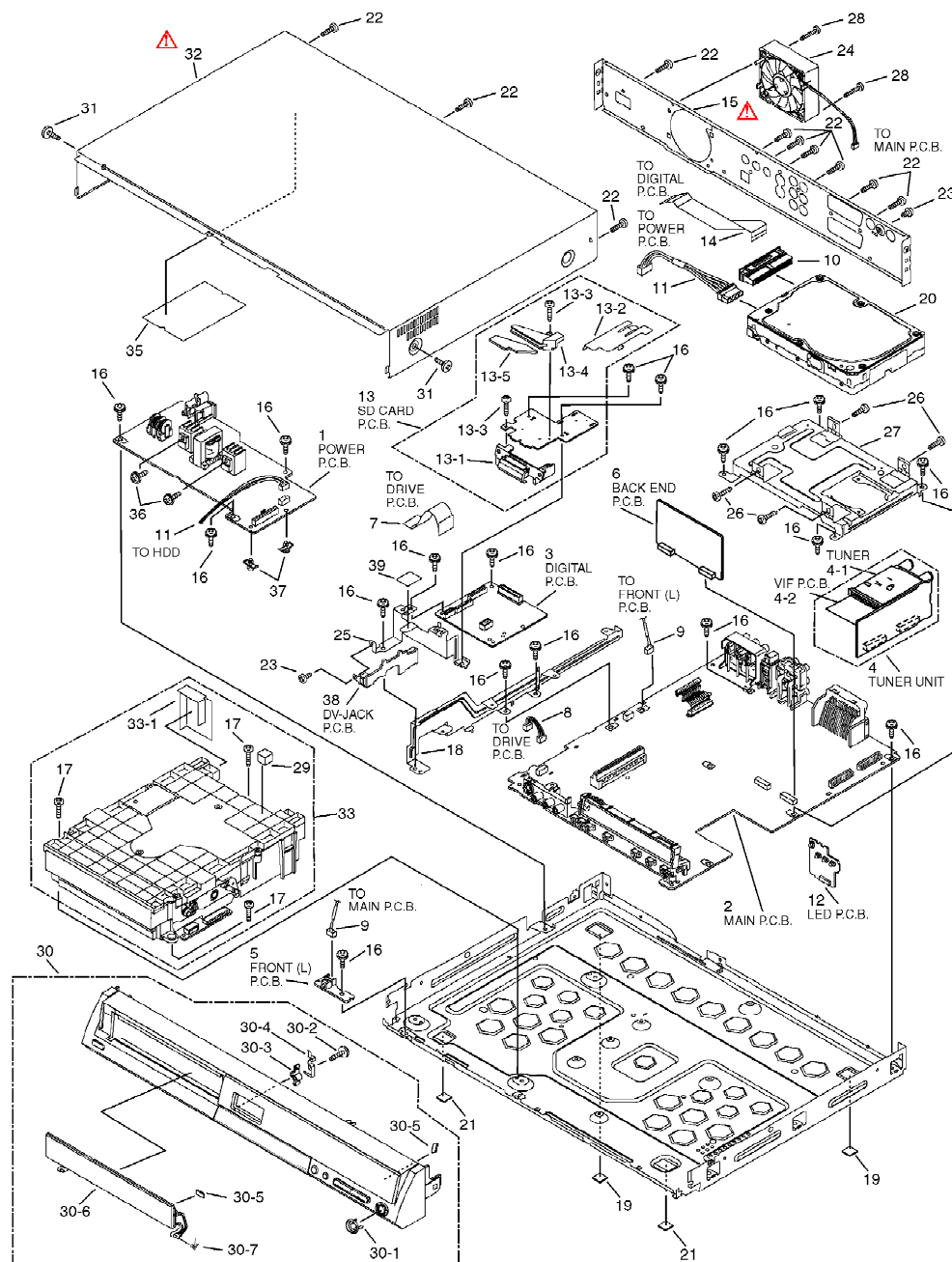
21.4. VIF P.C.B.

21.5. SD CARD

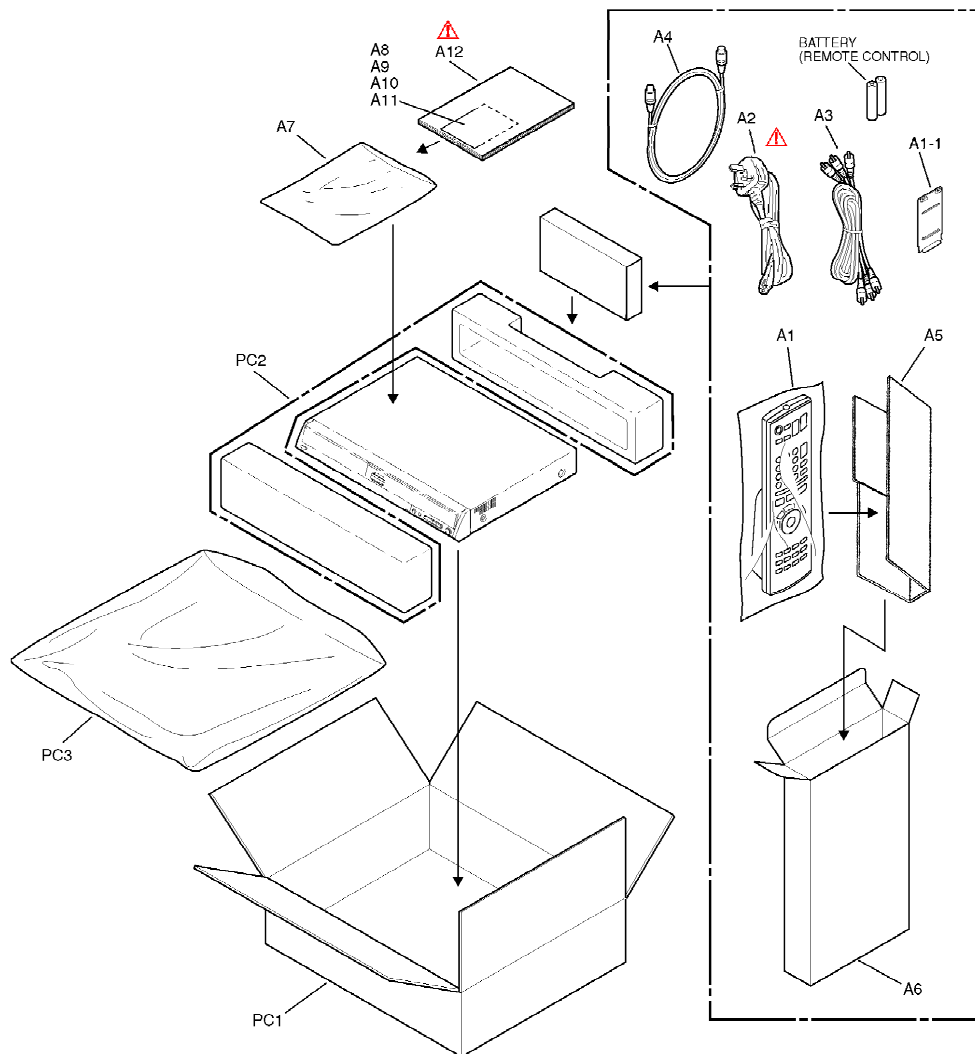
21.6. FRONT P.C.B. AND LED P.C.B.

22. EXPLODED VIEWS

22.1. CASING PARTS AND & MECHANISM SECTION



22.2. PACKING & ACCESSORIES SECTION



23. REPLACEMENT PARTS LIST

Notes:

*Important safety notice:

Components identified by mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufactures specified parts shown in the parts list.

*Warning: This product uses a laser diode. Refer to caution statements.

*Capacity values are in microfarads (μ F) unless specified otherwise, P=Pico-farads (pF), F= Farads (F).


*Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000k (OHM).


*The marking (RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

*All parts except parts mentioned [SPC] in the Remarks column are supplied from PAVCG.



*Parts mentioned [SPC] are supplied from PAVC

23.1. CASING PARTS & PRINTED CIRCUIT BOARDS



Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	VEP01961B	POWER PCB	1	(RTL)
2	REPD0019B	MAIN PCB	1	(RTL)
3	RFKBEH60DEB	DIGITAL PCB	1	(RTL)
4	REPD0022A	TUNER UNIT	1	(RTL)
4-1	ENG47409G1F	TUNER	1	(RTL)
4-2	VEP07A71M	VIF PCB	1	(RTL)
5	REPD0020A	FRONT L PCB	1	(RTL)
6	REPD0023A	BACKEND PCB	1	(RTL)
7	VWJ1775	FFC (40P)	1	
8	VEE1A60	WIRE WITH CONNECTOR (4P)	1	
9	VEE1A61	WIRE WITH CONNECTOR (2P)	1	
10	K1MZ40Z00002	HDD CONNECTOR	1	
11	VEE1A71	HDD CABLE (4P)	1	
12	REPD0021A	LED PCB	1	(RTL)
13	VEP73121E	SD CARD PCB	1	(RTL)
13-1	RYQ0556A-S2	CARD HOLDER ASSY	1	
13-2	RMV0298	FFC HOLDER	1	
13-3	XTN2+8GFJ	SCREW	2	
13-4	RMR1697-W	SD REFLECTOR	1	
13-5	RGL0677-Q	PANEL LIGHT SD	1	
14	VWJ1780	FFC DRIVE-HDD	1	
15	RGR0354F-F1	REAR PANEL	1	
16	RHD30111-3	SCREW	17	
17	RHD30115-3	SCREW	3	
18	RMA1915-1	DIGITAL ANGLE	1	
19	RKA0177-K	LEG CUSHION REAR	2	
20	RFKV0052HDK	HARD DISK DRIVE	1	
21	RKA0166-T	LEG CUSHION FRONT	2	
22	VHD0690-1	SCREW	10	
23	XSN3+4FJK	SCREW	2	
24	L6FAKCCE0013	FAN MOTOR	1	
25	RMA1910A	SD CARD ANGLE	1	
26	RHD32001	SCREW	4	
27	RMN0823-2	HDD BRACKET	1	
28	XTB3+25JFJK	SCREW	2	
29	RMX0325	MECHA SPACER	1	
30	RYP1269L-S	FRONT PANEL UNIT	1	
30-1	RGK1885-S	REC BUTTON RING	1	
30-2	RHD26045	SCREW (PANEL)	1	
30-3	RMR1698-S	SHAFT HOLDER	1	
30-4	RMC0660	MIRROR EARTH	1	
30-5	RMX0302	DOOR DAMPER	2	
30-6	RKF0730-S	TRAY DOOR	1	
30-7	VMB3410	BLINDER SPRING	1	
31	RHD30113	SCREW TOP CASE SIDE	2	
32	RKM0532A-S	TOP CASE	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
33	RFKNVXY1872	RAM DRIVE UNIT	1	 (RTL) (SPC)
33-1	RMV0302	MECHA BARRIER	1	(SPC)
35	RMV0301	TRANS BARRIER	1	
36	XYN3+J8FJ	SCREW	2	
37	RMX0323	PCB SPACER	2	
38	VEP73133A	DV JACK PCB	1	(RTL)
39	RMV0305	SD BARRIER	1	

23.2. PACKING & ACCESSORIES PARTS

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
A1	EUR7729KH0	REMOTE CONTROL	1	
A1-1	UR77EC2903	BATTERY COVER	1	
A2	RJA0044-3C	AC CORD	1	
A3	K2KA6BA00003	AV CORD	1	
A4	K1TWACC00001	RF CABLE	1	
A5	RPQ1594	PAD (C)	1	
A6	RPQFD0008	ACCESSORY BOX	1	
A7	RPFD0007	PE-BAG	1	
A8	RQCA1395	CARD CAUTION SHEET	1	
A9	RQCAD0023	QUICK START GUIDE	1	
A10	RQCAD0028	TV GUIDE LEAFLET	1	
A11	RQCC2704	DVD-MEDIA LEAFLET	1	
A12	RQTD0170-B	O/I BOOK	1	
PC1	RPG7640	CARTON BOX	1	
PC2	RPN1798	CUSHION SET	1	
PC3	RPFD0004	MIRAMAT BAG	1	

23.3. ELECTRICAL PARTS

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C0701	EEAGA1H1R0B	ALU ELEC CAPACITOR	1	
C0702	D0GB102JA057	CHIP RESISTOR	1	
C0703	EEAGA1H1R0B	ALU ELEC CAPACITOR	1	
C0704	ECJ1VB1E683K	CHIP CAPACITOR	1	
C0705	F1H1E104A050	CHIP CAPACITOR	1	
C0706	ECJ2VB1H333K	CHIP CAPACITOR	1	
C0707	EEAGA1HR47B	ALU ELEC CAPACITOR	1	
C0709	F1H1H1030007	CHIP CAPACITOR	1	
C0710	F1H1H1030007	CHIP CAPACITOR	1	
C0711	EEAGA1C220B	ALU ELEC CAPACITOR	1	
C0712	F1H1C104A008	CHIP CAPACITOR	1	
C0713	F2A0J101A012	ALU ELEC CAPACITOR	1	
C0714	F1J1C1050030	CHIP CAPACITOR	1	
C0721	ECJ2VC1H330J	CHIP CAPACITOR	1	
C0724	ECJ2VF1H103Z	CHIP CAPACITOR	1	
C0725	F1H1H1200004	CHIP CAPACITOR	1	
C0727	ECJ1VC1H390J	CHIP CAPACITOR	1	
C0728	ECJ1VC1H560J	CHIP CAPACITOR	1	
C0730	ECJ1VC1H220J	CHIP CAPACITOR	1	
C0732	F1H1H1010005	CHIP CAPACITOR	1	
C1120	ECQU2A223MLC	EMI CAPACITOR	1	
C1121	ECQU2A683MLC	X2 CAPACITOR	1	
C1122	F1B2G1020002	CERAMIC CAPACITOR	1	
C1123	F1B2G1020002	CERAMIC CAPACITOR	1	
C1125	F1B2G1020002	CERAMIC CAPACITOR	1	
C1143	ECEC2GG680FZ	ALU ELEC CAPACITOR	1	
C1150	EEUFM1V680B	CAPACITOR	1	
C1151	F1B3D102A011	CERAMIC CAPACITOR	1	
C1152	ECJ2VC1H331J	CHIP CAPACITOR	1	
C1153	ECJ2VB1H222K	CHIP CAPACITOR	1	
C1154	ECJ2VB1H102K	CHIP CAPACITOR	1	
C1200	F1J1E104A081	CHIP CAPACITOR	1	
C1201	ECJ2VB1E473K	CHIP CAPACITOR	1	
C1270	F2A1C182A621	ALU ELEC CAPACITOR	1	
C1271	F2A1C182A621	ALU ELEC CAPACITOR	1	
C1272	F2A1C102A625	ALU ELEC CAPACITOR	1	
C1273	EEUFM1C121B	ALU ELEC CAPACITOR	1	
C1274	F1J1E104A081	CHIP CAPACITOR	1	
C1400	EEUFM1E221B	ALU ELEC CAPACITOR	1	
C1401	F1J1C1050030	CHIP CAPACITOR	1	
C1402	ECJ2VB1H103K	CHIP CAPACITOR	1	
C1403	ECJ2VC1H391J	CHIP CAPACITOR	1	
C1404	ECJ2VB1H472K	CHIP CAPACITOR	1	
C1405	ECJ2VB1H102K	CHIP CAPACITOR	1	
C1406	F2A0J681A550	ALU ELEC CAPACITOR	1	
C1407	EEUFM1E221B	ALU ELEC CAPACITOR	1	
C1408	F1J1E104A081	CHIP CAPACITOR	1	
C1409	F1J1E104A081	CHIP CAPACITOR	1	
C1410	F1J1H2230005	CHIP CAPACITOR	1	
C1411	ECJ2VC1H181J	CHIP CAPACITOR	1	
C1412	ECJ2VB1H103K	CHIP CAPACITOR	1	
C1413	F2A1A4710038	ALU ELEC CAPACITOR	1	
C1421	F1J1E104A081	CHIP CAPACITOR	1	
C1503	F2A1A2210063	ALU ELEC CAPACITOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C1504	ECA1EM331B	ALU ELEC CAPACITOR	1	
C1505	F1H0J1050012	CHIP CAPACITOR	1	
C1507	F2A1A101A389	ALU ELEC CAPACITOR	1	
C1508	F1H1H1030007	CHIP CAPACITOR	1	
C1509	F1H0J1050012	CHIP CAPACITOR	1	
C1510	F1H1A105A028	CHIP CAPACITOR	1	
C1511	F1H1A105A028	CHIP CAPACITOR	1	
C1512	F1J0J106A014	CHIP CAPACITOR	1	
C1513	F2A1A4710038	ALU ELEC CAPACITOR	1	
C1514	ECJ2VB1H103K	CHIP CAPACITOR	1	
C1515	F1H1A105A028	CHIP CAPACITOR	1	
C1518	F2A0J681A550	ALU ELEC CAPACITOR	1	
C1519	ECJ1VB1H471K	CHIP CAPACITOR	1	
C1526	F2A1A470A388	ALU ELEC CAPACITOR	1	
C1527	F1H1A1050029	CHIP CAPACITOR	1	
C1539	F1H0J1050012	CHIP CAPACITOR	1	
C1561	F1H1H1030007	CHIP CAPACITOR	1	
C1562	F1H1A105A028	CHIP CAPACITOR	1	
C1571	F2A1A470A388	ALU ELEC CAPACITOR	1	
C1572	F1H1E223A029	CHIP CAPACITOR	1	
C1574	F1J1E105A080	CHIP CAPACITOR	1	
C1575	F1J1E105A080	CHIP CAPACITOR	1	
C1601	EEUFM1E221B	ALU ELEC CAPACITOR	1	
C1602	F1J1E104A081	CHIP CAPACITOR	1	
C1603	F1J1E104A081	CHIP CAPACITOR	1	
C1604	F1J1E104A081	CHIP CAPACITOR	1	
C1605	ECJ2VC1H181J	CHIP CAPACITOR	1	
C1606	ECJ2VB1H103K	CHIP CAPACITOR	1	
C1607	F2A1A681A539	ALU ELEC CAPACITOR	1	
C1608	F1J1E104A081	CHIP CAPACITOR	1	
C1701	EEUFM1E221B	ALU ELEC CAPACITOR	1	
C1702	F1H1C104A042	CHIP CAPACITOR	1	
C1703	F1H1C104A042	CHIP CAPACITOR	1	
C1704	F1H1H1030006	CHIP CAPACITOR	1	
C1705	ECJ1VC1H121J	CHIP CAPACITOR	1	
C1706	F1H1H1030006	CHIP CAPACITOR	1	
C1707	F2A0J681A550	ALU ELEC CAPACITOR	1	
C1800	F2A1E4700048	ALU ELEC CAPACITOR	1	
C3001	F1H1E104A030	CHIP CAPACITOR	1	
C3002	F1H1H1030007	CHIP CAPACITOR	1	
C3003	F1H1E104A030	CHIP CAPACITOR	1	
C3004	F1H1E104A030	CHIP CAPACITOR	1	
C3005	F2A0J471A016	ALU ELEC CAPACITOR	1	
C3006	F2A0J471A016	ALU ELEC CAPACITOR	1	
C3007	F2A1A471A548	ALU ELEC CAPACITOR	1	
C3008	F2A1A1010072	ALU ELEC CAPACITOR	1	
C3009	F2A1A471A548	ALU ELEC CAPACITOR	1	
C3010	F2A1A1010072	ALU ELEC CAPACITOR	1	
C3011	F1H1E104A030	CHIP CAPACITOR	1	
C3012	F2A1A471A548	ALU ELEC CAPACITOR	1	
C3013	F2A1E4700048	ALU ELEC CAPACITOR	1	
C3014	F1H1E104A030	CHIP CAPACITOR	1	
C3015	F1H1E104A030	CHIP CAPACITOR	1	
C3016	F1H1E104A030	CHIP CAPACITOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C3017	F1H1E104A030	CHIP CAPACITOR	1	
C3018	F1H1E104A030	CHIP CAPACITOR	1	
C3019	F1H1E104A030	CHIP CAPACITOR	1	
C3020	F1H1E104A030	CHIP CAPACITOR	1	
C3021	F1H1E104A030	CHIP CAPACITOR	1	
C3022	F1H1E104A030	CHIP CAPACITOR	1	
C3025	F1H1E104A030	CHIP CAPACITOR	1	
C3026	F1H0J1050012	CHIP CAPACITOR	1	
C3027	F1H1E104A030	CHIP CAPACITOR	1	
C3028	ECEA1HKA4R7B	ALU ELEC CAPACITOR	1	
C3029	F1H1E104A030	CHIP CAPACITOR	1	
C3030	EEAGA1H4R7B	ALU ELEC CAPACITOR	1	
C3031	F1H0J1050012	CHIP CAPACITOR	1	
C3032	ECEA0JKA101B	ALU ELEC CAPACITOR	1	
C3033	F1H0J1050012	CHIP CAPACITOR	1	
C3034	F1H1H1030007	CHIP CAPACITOR	1	
C3035	ECEA0JKA101B	ALU ELEC CAPACITOR	1	
C3036	F1H1E104A030	CHIP CAPACITOR	1	
C3037	F1H1E104A030	CHIP CAPACITOR	1	
C3038	F1J1E105A080	CHIP CAPACITOR	1	
C3057	F1H1H222A219	CHIP CAPACITOR	1	
C3058	ECJ1VB1H471K	CHIP CAPACITOR	1	
C3059	F1H1H222A219	CHIP CAPACITOR	1	
C3060	ECJ1VB1H471K	CHIP CAPACITOR	1	
C3064	F1H1E104A030	CHIP CAPACITOR	1	
C3065	F1H0J1050012	CHIP CAPACITOR	1	
C3910	F2A1V100A534	ALU ELEC CAPACITOR	1	
C3911	F2A1V100A534	ALU ELEC CAPACITOR	1	
C3914	F2A1H100A236	ALU ELEC CAPACITOR	1	
C3915	F2A1H100A494	ALU ELEC CAPACITOR	1	
C3916	F2A1H1R0A494	ALU ELEC CAPACITOR	1	
C3917	F2A1H1R0A494	ALU ELEC CAPACITOR	1	
C3918	F2A1H100A236	ALU ELEC CAPACITOR	1	
C3919	F2A1H100A494	ALU ELEC CAPACITOR	1	
C3928	F2A1V100A534	ALU ELEC CAPACITOR	1	
C3929	F2A1V100A534	ALU ELEC CAPACITOR	1	
C3935	F2A1C471A701	ALU ELEC CAPACITOR	1	
C3951	F1H1H4700004	CHIP CAPACITOR	1	
C3952	F1H1H4700004	CHIP CAPACITOR	1	
C3953	ECJ1VB1H471K	CHIP CAPACITOR	1	
C3954	ECJ1VB1H471K	CHIP CAPACITOR	1	
C3955	F1H1H1010005	CHIP CAPACITOR	1	
C3956	F1H1H1010005	CHIP CAPACITOR	1	
C3957	ECJ1VB1H471K	CHIP CAPACITOR	1	
C3958	ECJ1VB1H471K	CHIP CAPACITOR	1	
C3959	F1H1H4700004	CHIP CAPACITOR	1	
C3960	F1H1H4700004	CHIP CAPACITOR	1	
C3961	F1H1H1010005	CHIP CAPACITOR	1	
C3962	F1H1H1010005	CHIP CAPACITOR	1	
C4005	F2A1H2200032	ALU ELEC CAPACITOR	1	
C4006	F2A1H100A494	ALU ELEC CAPACITOR	1	
C4008	F2A1E1010067	ALU ELEC CAPACITOR	1	
C4011	F2A1H100A494	ALU ELEC CAPACITOR	1	
C4018	F2A1H4R7A494	ALU ELEC CAPACITOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C4019	F2A1C220A637	ALU ELEC CAPACITOR	1	
C4021	F2A1C220A637	ALU ELEC CAPACITOR	1	
C4023	F2A1H100A236	ALU ELEC CAPACITOR	1	
C4024	F2A1E1010067	ALU ELEC CAPACITOR	1	
C4025	F2A1H100A236	ALU ELEC CAPACITOR	1	
C4027	F2A1H2200032	ALU ELEC CAPACITOR	1	
C4028	F2A1H100A494	ALU ELEC CAPACITOR	1	
C4030	F1H1H472A219	CHIP CAPACITOR	1	
C4031	F1H1H472A219	CHIP CAPACITOR	1	
C4033	F2A1C220A637	ALU ELEC CAPACITOR	1	
C4034	F2A1C220A637	ALU ELEC CAPACITOR	1	
C4052	F1H1E104A030	CHIP CAPACITOR	1	
C4053	EEAGA1C100B	ALU ELEC CAPACITOR	1	
C4054	EEAGA1C100B	ALU ELEC CAPACITOR	1	
C4055	F1H1E104A030	CHIP CAPACITOR	1	
C4056	F2A0J471A599	ALU ELEC CAPACITOR	1	
C4057	ECJ2VC1H330J	CHIP CAPACITOR	1	
C4059	ECQV1H104JL3	PLAST FILM CAPACITOR	1	
C4060	ECJ2VC1H330J	CHIP CAPACITOR	1	
C4061	F1H1C104A008	CHIP CAPACITOR	1	
C4062	F2A1A221A206	ALU ELEC CAPACITOR	1	
C4063	F2A1E470A205	ALU ELEC CAPACITOR	1	
C4064	F2A1E470A205	ALU ELEC CAPACITOR	1	
C4067	F2A1E4700048	ALU ELEC CAPACITOR	1	
C4074	F1H1E104A030	CHIP CAPACITOR	1	
C4077	F1H1E104A030	CHIP CAPACITOR	1	
C4082	ECJ2VC1H561J	CHIP CAPACITOR	1	
C4083	ECJ2VC1H561J	CHIP CAPACITOR	1	
C4092	F2A1C471A701	ALU ELEC CAPACITOR	1	
C4903	F2A0J470A599	ALU ELEC CAPACITOR	1	
C4904	F1H1E104A030	CHIP CAPACITOR	1	
C6801	F1H1H1030006	CHIP CAPACITOR	1	
C6802	F1J0J106A014	CHIP CAPACITOR	1	
C6803	F1J0J106A014	CHIP CAPACITOR	1	
C7101	F1H1H1030006	CHIP CAPACITOR	1	
C7102	F1H1H1030006	CHIP CAPACITOR	1	
C7301	F1H1E104A030	CHIP CAPACITOR	1	
C7302	F1H1E104A030	CHIP CAPACITOR	1	
C7303	F1H1E104A030	CHIP CAPACITOR	1	
C7304	F1H1E104A030	CHIP CAPACITOR	1	
C7305	ECA0JHG221B	ALU ELEC CAPACITOR	1	
C7306	F1J1A105A003	CHIP CAPACITOR	1	
C7309	F1J1A105A003	CHIP CAPACITOR	1	
C7310	ECJ1VB1H152K	CHIP CAPACITOR	1	
C7311	F1H1H1030007	CHIP CAPACITOR	1	
C7312	F1H1H1030007	CHIP CAPACITOR	1	
C7313	F1H1H1030007	CHIP CAPACITOR	1	
C7314	F1H1H472A219	CHIP CAPACITOR	1	
C7315	F1H1H472A219	CHIP CAPACITOR	1	
C7316	F1H1C104A042	CHIP CAPACITOR	1	
C7317	F1H1C104A042	CHIP CAPACITOR	1	
C7318	EEUFC1A470B	ALU ELEC CAPACITOR	1	
C7319	F1H1H330A736	CHIP CAPACITOR	1	
C7320	F1H1H330A736	CHIP CAPACITOR	1	




Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C7321	ECEA0JKA101B	ALU ELEC CAPACITOR	1	
C7401	F1J1E105A080	CHIP CAPACITOR	1	
C7408	F1H1E104A030	CHIP CAPACITOR	1	
C7416	F2A0J470A599	ALU ELEC CAPACITOR	1	
C7427	F1H1H222A219	CHIP CAPACITOR	1	
C7444	F2A1C221A701	ALU ELEC CAPACITOR	1	
C7445	F1H0J1050012	CHIP CAPACITOR	1	
C7463	F1H1H1030007	CHIP CAPACITOR	1	
C7464	F1H0J1050012	CHIP CAPACITOR	1	
C7466	EEUFM1A681LB	CAPACITOR	1	
C7469	F1H0J1050012	CHIP CAPACITOR	1	
C7470	F2A1A470A388	ALU ELEC CAPACITOR	1	
C7471	F1H0J1050012	CHIP CAPACITOR	1	
C7472	F1H0J1050012	CHIP CAPACITOR	1	
C7473	F1H0J1050012	CHIP CAPACITOR	1	
C7474	F1H0J1050012	CHIP CAPACITOR	1	
C7475	F1H0J1050012	CHIP CAPACITOR	1	
C7476	F1J1H680A025	CHIP CAPACITOR	1	
C7477	F1H1E104A030	CHIP CAPACITOR	1	
C7478	ECJ2VB1H103K	CHIP CAPACITOR	1	
C7479	F1H1H472A219	CHIP CAPACITOR	1	
C7480	F1H1E104A030	CHIP CAPACITOR	1	
C7481	ECA1EM331B	ALU ELEC CAPACITOR	1	
C7484	ECEA0JKA470B	ALU ELEC CAPACITOR	1	
C7485	F1H0J1050012	CHIP CAPACITOR	1	
C7501	F1J0J475A008	CHIP CAPACITOR	1	
C7502	F1H1H1010005	CHIP CAPACITOR	1	
C7503	F1J0J475A008	CHIP CAPACITOR	1	
C7504	F1H1E104A030	CHIP CAPACITOR	1	
C7505	F1H1E104A030	CHIP CAPACITOR	1	
C7507	F1H1A1050029	CHIP CAPACITOR	1	
C7510	F1H1H222A219	CHIP CAPACITOR	1	
C7511	F1H1H222A219	CHIP CAPACITOR	1	
C7512	F1H1E104A030	CHIP CAPACITOR	1	
C7513	ECJ1VC1H100D	CHIP CAPACITOR	1	
C7515	ECJ1VC1H100D	CHIP CAPACITOR	1	
C7516	ECJ1VC1H180J	CHIP CAPACITOR	1	
C7517	ECJ1VC1H180J	CHIP CAPACITOR	1	
C7518	F1H1H220A725	CHIP CAPACITOR	1	
C7519	ECJ1VC1H180J	CHIP CAPACITOR	1	
C7521	F1H1H1030007	CHIP CAPACITOR	1	
C7522	F1H1H1010005	CHIP CAPACITOR	1	
C7523	F1H1H1030007	CHIP CAPACITOR	1	
C7524	F1H1E104A030	CHIP CAPACITOR	1	
C7526	ECJ1VC1H100D	CHIP CAPACITOR	1	
C7527	ECJ1VC1H100D	CHIP CAPACITOR	1	
C7528	F1H1E104A030	CHIP CAPACITOR	1	
C7531	ECJ1VC1H100D	CHIP CAPACITOR	1	
C7532	ECJ1VC1H100D	CHIP CAPACITOR	1	
C7534	F1H1H1030007	CHIP CAPACITOR	1	
C7535	F1H1E104A030	CHIP CAPACITOR	1	
C7536	ECJ1VC1H100D	CHIP CAPACITOR	1	
C7537	ECJ1VC1H100D	CHIP CAPACITOR	1	
C7538	ECJ1VC1H100D	CHIP CAPACITOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C7539	F1H1H4700004	CHIP CAPACITOR	1	
C7540	F1H1H1030007	CHIP CAPACITOR	1	
C7541	F1H1H4700004	CHIP CAPACITOR	1	
C7542	F1H1E104A030	CHIP CAPACITOR	1	
C7543	F1H1H4700004	CHIP CAPACITOR	1	
C7544	F1H1E104A030	CHIP CAPACITOR	1	
C7546	F1H0J1050012	CHIP CAPACITOR	1	
C7547	F1H1A105A028	CHIP CAPACITOR	1	
C7548	ECJ1VC1H100D	CHIP CAPACITOR	1	
C7549	ECJ1VC1H100D	CHIP CAPACITOR	1	
C7551	F1H1E104A030	CHIP CAPACITOR	1	
C7552	ECJ1VB1H221K	CHIP CAPACITOR	1	
C7553	ECJ1VB1H221K	CHIP CAPACITOR	1	
C7554	F1H1H1030007	CHIP CAPACITOR	1	
C7555	F1H1H1030007	CHIP CAPACITOR	1	
C7556	ECJ1VC1H102J	CHIP CAPACITOR	1	
C7557	ECJ1VC1H102J	CHIP CAPACITOR	1	
C7558	ECJ1VC1H102J	CHIP CAPACITOR	1	
C7566	F2A1V470A533	ALU ELEC CAPACITOR	1	
C7569	F2A1E221A586	ALU ELEC CAPACITOR	1	
C7571	F2A1H2200032	ALU ELEC CAPACITOR	1	
C7573	ECQB1H222KF3	PLAST FILM CAPACITOR	1	
C7574	F2A1A2210063	ALU ELEC CAPACITOR	1	
C7575	F2A1H2200032	ALU ELEC CAPACITOR	1	
C7577	F1H1E104A030	CHIP CAPACITOR	1	
C7578	ECEA0JKA221B	ALU ELEC CAPACITOR	1	
C7579	F2A0J470A012	ALU ELEC CAPACITOR	1	
C7581	F1H1H1030007	CHIP CAPACITOR	1	
C7584	F4D55473A013	ALU ELEC CAPACITOR	1	
C7585	F2A0J101A012	ALU ELEC CAPACITOR	1	
C7591	F1H1A1050029	CHIP CAPACITOR	1	
C7592	F1H1A1050029	CHIP CAPACITOR	1	
C7595	F1H0J1050012	CHIP CAPACITOR	1	
C7596	F1H0J1050012	CHIP CAPACITOR	1	
C7597	F1H0J1050012	CHIP CAPACITOR	1	
C7598	F1H1H1030007	CHIP CAPACITOR	1	
C7599	F1H1H1030007	CHIP CAPACITOR	1	
C7609	F1H1E104A030	CHIP CAPACITOR	1	
C7610	F1H1E104A030	CHIP CAPACITOR	1	
C7611	F1H1H1010005	CHIP CAPACITOR	1	
C7612	F1H1A1050029	CHIP CAPACITOR	1	
C7613	F1H1E104A030	CHIP CAPACITOR	1	
C7617	F1H1H1030007	CHIP CAPACITOR	1	
C7618	F1H0J1050012	CHIP CAPACITOR	1	
C7801	F1H1H1030007	CHIP CAPACITOR	1	
C7802	F1H1H1030007	CHIP CAPACITOR	1	
C7803	F1H1H1030007	CHIP CAPACITOR	1	
C7804	F1H0J1050012	CHIP CAPACITOR	1	
C7805	F1H0J1050012	CHIP CAPACITOR	1	
C7806	F1H0J1050012	CHIP CAPACITOR	1	
C7807	F1H0J1050012	CHIP CAPACITOR	1	
C7808	F1H1H1030007	CHIP CAPACITOR	1	
C7809	F1H1H1030007	CHIP CAPACITOR	1	
C7810	F1H1H1030007	CHIP CAPACITOR	1	


Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C7811	F1H1H1030007	CHIP CAPACITOR	1	
C7812	F1H1H1030007	CHIP CAPACITOR	1	
C7813	F1H1H1030007	CHIP CAPACITOR	1	
C7814	F1H1H1030007	CHIP CAPACITOR	1	
C7815	F1H1C224A074	CHIP CAPACITOR	1	
C7816	F1H1H1030007	CHIP CAPACITOR	1	
C7817	F1H1H1030007	CHIP CAPACITOR	1	
C7818	F1H1H1030007	CHIP CAPACITOR	1	
C7819	F1H1H1030007	CHIP CAPACITOR	1	
C7820	EEAGA1C470B	ALU ELEC CAPACITOR	1	
C7821	EEAGA1C470B	ALU ELEC CAPACITOR	1	
C7822	EEAGA1C470B	ALU ELEC CAPACITOR	1	
C7823	F1H1H222A219	CHIP CAPACITOR	1	
C7825	F1H1H330A736	CHIP CAPACITOR	1	
C7826	F1H1H330A736	CHIP CAPACITOR	1	
C7827	F1H1H330A736	CHIP CAPACITOR	1	
C7828	F1H1H330A736	CHIP CAPACITOR	1	
C7834	F1H1H222A219	CHIP CAPACITOR	1	
C7836	F1H1A1050029	CHIP CAPACITOR	1	
C7837	F1H1H104A220	CHIP CAPACITOR	1	
C7838	F1H1H104A220	CHIP CAPACITOR	1	
C7839	EEAGA1H1R0B	ALU ELEC CAPACITOR	1	
C7840	ECJ1VC1H180J	CHIP CAPACITOR	1	
C9001	F1H1H1030006	CHIP CAPACITOR	1	
C9002	F1H1H1030006	CHIP CAPACITOR	1	
C9003	F1H1C104A042	CHIP CAPACITOR	1	
C9004	F1H1H1030006	CHIP CAPACITOR	1	
C9005	F1H1H1030006	CHIP CAPACITOR	1	
C9006	ECJ1VC1H020C	CHIP CAPACITOR	1	
C9007	ECJ2FB1A225K	CHIP CAPACITOR	1	
C9008	F1H1C104A042	CHIP CAPACITOR	1	
C9009	F1H1H1030006	CHIP CAPACITOR	1	
C9010	F1H1H1030006	CHIP CAPACITOR	1	
C9011	F1H1C104A042	CHIP CAPACITOR	1	
C9012	F1H1H8R00006	CHIP CAPACITOR	1	
C9013	F1H1H8R00006	CHIP CAPACITOR	1	
C9014	F1H1C104A042	CHIP CAPACITOR	1	
C9038	F1H1C104A042	CHIP CAPACITOR	1	
C9201	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9202	ECJ1VC1H102J	CHIP CAPACITOR	1	
C9203	F1H1C104A042	CHIP CAPACITOR	1	
C9204	ECJ1VF1C334Z	CHIP CAPACITOR	1	
C9205	F1H1H8R00006	CHIP CAPACITOR	1	
C9206	F1H1H1030007	CHIP CAPACITOR	1	
C9207	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9208	F1H1H8R00006	CHIP CAPACITOR	1	
C9210	F1H1H1200004	CHIP CAPACITOR	1	
C9211	F1H1H8R00006	CHIP CAPACITOR	1	
C9212	F1H1H1000013	CHIP CAPACITOR	1	
C9301	F1H1C104A042	CHIP CAPACITOR	1	
C9303	F1H1H1030006	CHIP CAPACITOR	1	
C9304	F1H1E223A029	CHIP CAPACITOR	1	
C9305	F1H1H1030006	CHIP CAPACITOR	1	
C9306	F1H1H1030006	CHIP CAPACITOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C9307	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9308	F1H1C104A008	CHIP CAPACITOR	1	
C9309	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9310	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9311	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9312	F1H1C104A008	CHIP CAPACITOR	1	
C9313	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9501	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9502	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9503	F1H1H1030006	CHIP CAPACITOR	1	
C9504	F1H1H1030006	CHIP CAPACITOR	1	
C9505	F1H1C104A042	CHIP CAPACITOR	1	
C9506	F1H1C104A042	CHIP CAPACITOR	1	
C9507	F1H1H1030006	CHIP CAPACITOR	1	
C9508	F1H1C104A042	CHIP CAPACITOR	1	
C9509	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9510	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9511	F1H1H4700004	CHIP CAPACITOR	1	
C9512	F1H1H4700004	CHIP CAPACITOR	1	
C9513	F1H1H4700004	CHIP CAPACITOR	1	
C9514	F1H1H4700004	CHIP CAPACITOR	1	
C9801	EEEHA0J101P	CHIP CAPACITOR	1	
C9802	EEEHA0J101P	CHIP CAPACITOR	1	
C9803	F1H1H1030006	CHIP CAPACITOR	1	
C9804	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9805	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9806	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9807	F1H1C104A042	CHIP CAPACITOR	1	
C9808	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9809	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9810	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9811	F1H1C104A042	CHIP CAPACITOR	1	
C9812	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9813	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9814	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9815	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9816	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9817	F1H1H1030006	CHIP CAPACITOR	1	
C9818	F1H1H1030007	CHIP CAPACITOR	1	
C9819	F1H1C104A042	CHIP CAPACITOR	1	
C9820	F1H1H1030006	CHIP CAPACITOR	1	
C9821	F1H1H1030007	CHIP CAPACITOR	1	
C9822	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9823	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9824	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9825	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9826	F1H1H1030006	CHIP CAPACITOR	1	
C9827	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9828	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9829	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9830	F1H1C104A042	CHIP CAPACITOR	1	
C9831	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9832	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9833	ECJ1VB1C105K	CHIP CAPACITOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C9834	F1H1C104A042	CHIP CAPACITOR	1	
C9835	ECJ1VB1C105K	CHIP CAPACITOR	1	
C9836	F1H1H1030006	CHIP CAPACITOR	1	
C9837	ECJ1VC1H102J	CHIP CAPACITOR	1	
C9838	ECJ1VC1H121J	CHIP CAPACITOR	1	
C9903	ECJ2FF1A106Z	CHIP CAPACITOR	1	
C9904	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9905	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9906	ECJ2FF1A106Z	CHIP CAPACITOR	1	
C9909	ECJ1VC1H070D	CHIP CAPACITOR	1	
C9910	ECJ1VC1H070D	CHIP CAPACITOR	1	
C9911	ECJ1VC1H070D	CHIP CAPACITOR	1	
C9912	ECJ1VC1H070D	CHIP CAPACITOR	1	
C9913	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9914	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9915	ECJ1VF1C105Z	CHIP CAPACITOR	1	
C9916	ECJ1VF1C105Z	CHIP CAPACITOR	1	
CN9001	K1KB11B00013	CONNECTOR	1	
CN9003	K1KB12B00030	CONNECTOR	1	
D1140	B0EDKT000009	DIODE	1	
D1151	B0HAGM000006	DIODE	1	
D1152	MAZ4100NMF	DIODE	1	
D1155	MAZ73000BC	DIODE	1	
D1156	MA2C165001VT	DIODE	1	
D1157	B0HADV000001	DIODE	1	
D1270	B0JBSG000010	DIODE	1	
D1400	B0JCPE000015	DIODE	1	
D1401	B0JCPD000021	DIODE	1	
D1567	MAZ40390HF	DIODE	1	
D1601	B0JCPD000021	DIODE	1	
D1701	B0JCPE000015	DIODE	1	
D1800	MA2J11100L	CHIP DIODE	1	
D3901	MA2C165001VT	DIODE	1	
D4002	MA3Z142D0LG	DIODE	1	
D4003	MA3Z142D0LG	DIODE	1	
D7101	B3ABA0000595	LED	1	
D7102	B3ACA0000265	LED	1	
D7107	B3AEA0000049	LED	1	
D7108	B3AEA0000049	LED	1	
D7301	MA2C18500E	DIODE	1	
D7401	MA2C165001VT	DIODE	1	
D7464	MAZ41200HF	DIODE	1	
D7466	MA2Q73800L	DIODE	1	
D7502	B0ACCK000005	DIODE	1	
D7504	B0AAGM000007	DIODE	1	
D7505	B0BA03600021	DIODE	1	
D7506	B0AADM000003	DIODE	1	
D7507	B0AADM000003	DIODE	1	
D7508	MAZ4300NLF	DIODE	1	
D7509	MAZ4240NMF	DIODE	1	
D7560	MA2C165001VT	DIODE	1	
D7561	MA2C165001VT	DIODE	1	
D7801	MAZ4056NHF	DIODE	1	
D7802	MAZ4056NHF	DIODE	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D7803	MAZ4056NHF	DIODE	1	
D7807	MAZ4300NMF	DIODE	1	
D9201	B0CCAB000039	DIODE	1	
D9301	MA2J72900L	DIODE	1	
D9302	MA2J72900L	DIODE	1	
DP7501	A2BD00000099	DISPLAY	1	
F1101	K5D202BK0005	FUSE	1	
FL6801	F1H0J1050025	CERAMIC CAPACITOR	1	
IC0701	C1AB00001924	IC	1	
IC1150	C0DACZH00017	IC	1	
IC1200	C0DAEMB00003	IC	1	
IC1400	C0DAAJG00007	IC	1	
IC1401	C0DBAKG00005	IC	1	
IC1501	C0EBJ0000143	IC	1	
IC1502	C0CBCBD00018	IC	1	
IC1504	C0CBCYH00003	IC	1	
IC1510	C0CBCDD00006	IC	1	
IC1601	C0DBAKG00007	IC	1	
IC1701	C0DBAKG00005	IC	1	
IC3001	C1AB00002100	IC	1	
IC4009	C0ABBB000125	IC	1	
IC4011	C0DBAHD00013	IC	1	
IC7301	C1AB00002225	IC	1	
IC7461	C0DBAKG00005	IC	1	
IC7462	B1DHDD000022	TRANSISTOR	1	
IC7501	C2CBJG000669	IC	1	
IC7502	C0EBE0000504	IC	1	
IC7503	C3EBJC000055	IC	1	
IC7504	C1ZBZ0002791	IC	1	
IC7505	C0EBJ0000153	IC	1	
IC7506	C0EBE0000457	IC	1	
IC7508	B3RAD0000092	IR RECEIVER	1	
IC7509	C0ABBA000146	IC	1	
IC7801	C1AB00002317	IC	1	
IC9001	C1AB00002208	IC	1	
IC9201	C0JBAZ002272	IC	1	
IC9301	C3ABQG000083	IC	1	
IC9302	C3FBMD000197	IC	1	
IC9303	C0EBE0000127	IC	1	
IC9901	C0ABBB000125	IC	1	
IP1401	K5H3022A0013	FUSE	1	
IP1501	K5H3022A0013	FUSE	1	
IP1560	K5H5012A0010	FUSE	1	
IP1601	K5H3022A0013	FUSE	1	
IP7502	K5H7512A0010	FUSE	1	
JK3001	K2HA612B0055	CONNECTOR	1	
JK3003	K2HA210B0002	CONNECTOR	1	
JK3901	K1FB242B0004	21 PIN SCART	1	
JK3903	K1U407B00006	CONNECTOR	1	
JK7501	K1U415B00001	CONNECTOR	1	
K0709	D0YBR0000020	CHIP RESISTOR	1	
K7432	D0YBR0000020	CHIP RESISTOR	1	
K7434	D0YBR0000020	CHIP RESISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
K7435	D0YBR0000020	CHIP RESISTOR	1	
K7503	D0YBR0000020	CHIP RESISTOR	1	
K7505	D0YBR0000020	CHIP RESISTOR	1	
K7516	D0YBR0000020	CHIP RESISTOR	1	
L0701	ELJNAR27JFB	CHIP INDUCTOR	1	
L0703	ELJNA3R3JFB	CHIP INDUCTOR	1	
L1120	G0B233D00001	LINE FILTER	1	
L1121	G0B233D00001	LINE FILTER	1	
L1270	G0A100H00025	CHOKE COIL	1	
L1400	G0A100HA0023	CHOKE COIL	1	
L1401	G0A330ZA0041	CHOKE COIL	1	
L1402	G0A150ZA0041	CHOKE COIL	1	
L1501	G0A220GA0026	CHOKE COIL RADIAL	1	
L1503	G0A100HA0023	CHOKE COIL	1	
L1601	G0A150ZA0041	CHOKE COIL	1	
L1701	G0A220ZA0041	CHOKE COIL	1	
L3001	G0C220JA0019	CHOKE COIL AXIAL	1	
L7301	G0C2R2JA0019	CHOKE COIL AXIAL	1	
L7302	G0C1R0JA0019	CHOKE COIL AXIAL	1	
L7401	G0A220GA0026	CHOKE COIL RADIAL	1	
L7402	G0A220GA0026	CHOKE COIL RADIAL	1	
L7460	G0A220GA0026	CHOKE COIL RADIAL	1	
L7461	G0A330ZA0030	CHOKE COIL	1	
L7501	G0C390JA0055	PEAKING COIL RADIAL	1	
L7801	ELJFA270KFB	CHIP INDUCTOR	1	
L7802	ELJFA100KFB	CHIP INDUCTOR	1	
L7803	ELJNA2R2JFB	CHIP INDUCTOR	1	
L7804	ELJFA2R2KFB	CHIP INDUCTOR	1	
L7806	G1CR33K00011	CHIP INDUCTOR	1	
L9005	J0JJC0000015	BEAD CORE	1	
L9007	J0JJC0000015	BEAD CORE	1	
L9201	ELJNA2R7JFB	CHIP INDUCTOR	1	
L9501	ELJFA1R0MFB	CHIP INDUCTOR	1	
L9502	J0JJC0000015	BEAD CORE	1	
L9503	ELJFA150KFB	CHIP INDUCTOR	1	
L9504	ELJFA100JFB	CHIP INDUCTOR	1	
L9505	ELJFA100JFB	CHIP INDUCTOR	1	
L9801	J0JDC0000002	BEAD CORE	1	
L9802	J0JDC0000002	BEAD CORE	1	
L9803	J0JHC0000075	BEAD CORE	1	
L9804	ELJPA270KFB	CHIP INDUCTOR	1	
L9903	ELJFA330KFB	CHIP INDUCTOR	1	
LB1400	J0JHC0000048	BEAD CORE	1	
LB1503	J0JKB0000003	BEAD CORE	1	
LB1504	J0JKB0000003	BEAD CORE	1	
LB1505	J0JKB0000003	BEAD CORE	1	
LB1506	J0JKB0000003	BEAD CORE	1	
LB1600	J0JHC0000048	BEAD CORE	1	
LB1700	J0JHC0000048	BEAD CORE	1	
LB3001	J0JGC0000020	BEAD CORE	1	
LB3002	J0JGC0000020	BEAD CORE	1	
LB3005	J0JBC0000011	BEAD CORE	1	
LB3006	J0JGC0000020	BEAD CORE	1	
LB3007	J0JBC0000011	BEAD CORE	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
LB3008	J0JGC0000020	BEAD CORE	1	
LB3907	J0JGC0000020	BEAD CORE	1	
LB3908	J0JGC0000020	BEAD CORE	1	
LB3911	J0JGC0000020	BEAD CORE	1	
LB3912	J0JGC0000020	BEAD CORE	1	
LB3913	J0JGC0000020	BEAD CORE	1	
LB6801	J0JHC0000032	BEAD CORE	1	
LB6802	J0JHC0000045	BEAD CORE	1	
LB7301	D0YDR0000006	CHIP RESISTOR	1	
LB7302	J0JBC0000011	BEAD CORE	1	
LB7303	D0YDR0000006	CHIP RESISTOR	1	
LB7406	J0JHC0000032	BEAD CORE	1	
LB7408	J0JHC0000032	BEAD CORE	1	
LB7409	J0JHC0000032	BEAD CORE	1	
LB7410	J0JGC0000020	BEAD CORE	1	
LB7412	J0JGC0000020	BEAD CORE	1	
LB7413	J0JGC0000020	BEAD CORE	1	
LB7460	J0JHC0000012	BEAD CORE	1	
LB7501	J0JGC0000020	BEAD CORE	1	
LB7502	J0JCC0000103	BEAD CORE	1	
LB7503	J0JCC0000103	BEAD CORE	1	
LB7504	J0JCC0000103	BEAD CORE	1	
LB7505	J0JBC0000011	BEAD CORE	1	
LB7506	J0JBC0000011	BEAD CORE	1	
LB7507	J0JGC0000020	BEAD CORE	1	
LB7508	J0JGC0000020	BEAD CORE	1	
LB7509	J0JCC0000060	BEAD CORE	1	
LB7510	J0JGC0000020	BEAD CORE	1	
LB7511	D0YBR0000020	CHIP RESISTOR	1	
LB7512	J0JKB0000037	CHOKE COIL	1	
LB7513	J0JGC0000020	BEAD CORE	1	
LB7514	J0JGC0000020	BEAD CORE	1	
LB7515	D0YBR0000020	CHIP RESISTOR	1	
LB7516	D0YBR0000020	CHIP RESISTOR	1	
LB7517	D0YBR0000020	CHIP RESISTOR	1	
LB7518	D0YBR0000020	CHIP RESISTOR	1	
LB7801	J0JHC0000032	BEAD CORE	1	
LB7802	J0JHC0000032	BEAD CORE	1	
LB7803	J0JHC0000032	BEAD CORE	1	
P1101	K2AA2H000007	AC INLET	1	
P1102	K1KB23A00004	CONNECTOR	1	
P1103	K1KA04AA0180	CONNECTOR	1	
P1501	K1KA23A00003	CONNECTOR	1	
P1502	K1KA04AA0180	CONNECTOR	1	
P37001	K1KA06B00181	CONNECTOR	1	
P37002	K2HZ104B0012	CONNECTOR	1	
P6802	K1KB14A00073	CONNECTOR	1	
P6803	K1NA09E00027	CONNECTOR	1	
P7001	K1KA03AA0301	CONNECTOR	1	
P7101	K1KB06B00024	CONNECTOR	1	
P7402	K1KA88A00002	CONNECTOR	1	
P7410	K1KA15AA0288	CONNECTOR	1	
P7411	K1KA12AA0288	CONNECTOR	1	
P7412	K1KA12AA0288	CONNECTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
P7413	K1KA11AA0288	CONNECTOR	1	
P7504	K1KA03AA0301	CONNECTOR	1	
P7506	K1KA03AA0301	CONNECTOR	1	
P7507	K1KA06AA0288	CONNECTOR	1	
PK0701	K1MR09AA0007	CONNECTOR	1	
PP0701	K1KA04BA0213	CONNECTOR	1	
PP7801	K1KB15B00013	CONNECTOR	1	
PP7802	K1KB12B00030	CONNECTOR	1	
Q0702	2SB0709ARL	TRANSISTOR	1	
Q1200	B3PBA0000237	PHOTO COUPLER	1	
Q1270	B1DHED000008	TRANSISTOR	1	
Q1400	B1DHDD000022	TRANSISTOR	1	
Q1560	2SD0601ARN	TRANSISTOR	1	
Q1600	B1DHDD000022	TRANSISTOR	1	
Q1700	B1DDCC000009	TRANSISTOR	1	
Q3916	2SD132800L	CHIP TRANSISTOR	1	
Q3917	2SD132800L	CHIP TRANSISTOR	1	
Q3918	2SD132800L	CHIP TRANSISTOR	1	
Q3919	2SD132800L	CHIP TRANSISTOR	1	
Q4006	2SD132800L	CHIP TRANSISTOR	1	
Q4007	2SD132800L	CHIP TRANSISTOR	1	
Q4008	2SD1819ARL	TRANSISTOR	1	
Q4009	2SD1819ARL	TRANSISTOR	1	
Q4060	2SD1819ARL	TRANSISTOR	1	
Q7101	2SD0601ARN	TRANSISTOR	1	
Q7102	2SD0601ARN	TRANSISTOR	1	
Q7103	2SD0601ARN	TRANSISTOR	1	
Q7104	2SD0601ARN	TRANSISTOR	1	
Q7410	B1AAGD000016	TRANSISTOR	1	
Q7501	2SB0709ARL	TRANSISTOR	1	
Q7502	2SD1819ARL	TRANSISTOR	1	
Q7503	2SB0709ARL	TRANSISTOR	1	
Q7504	2SD1819ARL	TRANSISTOR	1	
Q7506	2SD1819ARL	TRANSISTOR	1	
Q7507	2SD1819ARL	TRANSISTOR	1	
Q7508	2SD1819ARL	TRANSISTOR	1	
Q7510	2SD1994BR1VT	TRANSISTOR	1	
Q7590	B1ABMD000004	TRANSISTOR	1	
Q7801	B1AAGD000016	TRANSISTOR	1	
Q7802	B1AAGD000016	TRANSISTOR	1	
Q7803	B1AAGD000016	TRANSISTOR	1	
Q7804	2SB0709ARL	TRANSISTOR	1	
Q7805	2SD132800L	CHIP TRANSISTOR	1	
Q9201	2SB0709ARL	TRANSISTOR	1	
QR1301	UNR221300L	TRANSISTOR	1	
QR1302	UNR221300L	TRANSISTOR	1	
QR1303	UNR221300L	TRANSISTOR	1	
QR1304	UNR221300L	TRANSISTOR	1	
QR1800	UNR211300L	TRANSISTOR	1	
QR1801	UNR221300L	TRANSISTOR	1	
QR3910	UNR521300L	TRANSISTOR	1	
QR4060	UNR511100L	TRANSISTOR	1	
QR7401	UNR521300L	TRANSISTOR	1	
QR7410	UNR511300L	TRANSISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
QR7411	UNR521100L	TRANSISTOR	1	
QR7412	UNR511100L	TRANSISTOR	1	
QR7415	UNR521100L	TRANSISTOR	1	
QR7460	UNR521300L	TRANSISTOR	1	
QR7461	UNR521300L	TRANSISTOR	1	
QR7503	UNR521400L	TRANSISTOR	1	
QR7505	UNR521400L	TRANSISTOR	1	
QR7506	UNR521200L	TRANSISTOR	1	
QR7507	UNR521000L	TRANSISTOR	1	
QR7508	UNR511100L	TRANSISTOR	1	
QR7801	UNR521100L	TRANSISTOR	1	
QR7802	UNR521100L	TRANSISTOR	1	
QR7803	UNR511300L	TRANSISTOR	1	
QR7804	UNR511300L	TRANSISTOR	1	
QR9302	UNR521100L	TRANSISTOR	1	
R0701	D0YBR0000020	CHIP RESISTOR	1	
R0702	D0GB104JA057	CHIP RESISTOR	1	
R0703	D0GB102JA057	CHIP RESISTOR	1	
R0704	ERJ6GEYJ105V	CHIP RESISTOR	1	
R0705	ERJ6GEYJ392V	CHIP RESISTOR	1	
R0707	D0GB393JA057	CHIP RESISTOR	1	
R0708	D0GB223JA057	CHIP RESISTOR	1	
R0711	D0GB510JA057	CHIP RESISTOR	1	
R0715	D0GB223JA057	CHIP RESISTOR	1	
R0719	D0GB472JA057	CHIP RESISTOR	1	
R0725	ERJ6GEYJ101Z	CHIP RESISTOR	1	
R0726	D0GB332JA057	CHIP RESISTOR	1	
R0728	D0YBR0000020	CHIP RESISTOR	1	
R0729	D0GB103JA057	CHIP RESISTOR	1	
R0738	D0YBR0000020	CHIP RESISTOR	1	
R0740	D0GB471JA057	CHIP RESISTOR	1	
R0741	D0GB221JA057	CHIP RESISTOR	1	
R0742	ERJ6GEYJ471V	CHIP RESISTOR	1	
R0743	ERJ6GEYJ820V	CHIP RESISTOR	1	
R0747	D0GB271JA057	CHIP RESISTOR	1	
R0748	D0GB271JA057	CHIP RESISTOR	1	
R1150	ERJ6GEYJ180V	CHIP RESISTOR	1	
R1151	ERJ6GEYJ682V	CHIP RESISTOR	1	
R1152	ERJ6GEYJ103V	CHIP RESISTOR	1	
R1153	ERJ6GEYJ180V	CHIP RESISTOR	1	
R1154	ERJ6GEYG912V	CHIP RESISTOR	1	
R1155	ERJ6GEYG471V	CHIP RESISTOR	1	
R1156	ERJ6GEYG163V	CHIP RESISTOR	1	
R1157	ERJ6GEYG511V	CHIP RESISTOR	1	
R1158	ERX2SJR22E	METAL RESISTOR	1	
R1200	ERJ6GEYG122V	CHIP RESISTOR	1	
R1201	ERJ6GEYG822V	CHIP RESISTOR	1	
R1205	ERJ6GEYJ224V	CHIP RESISTOR	1	
R1206	ERJ6GEYG242V	CHIP RESISTOR	1	
R1207	ERJ6GEYJ103V	CHIP RESISTOR	1	
R1208	ERJ6GEYJ222V	CHIP RESISTOR	1	
R1209	ERJ6GEYJ102V	CHIP RESISTOR	1	
R1210	ERJ6GEYJ102V	CHIP RESISTOR	1	
R1270	ERJ6GEYJ472V	CHIP RESISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R1271	ERJ6GEYJ472V	CHIP RESISTOR	1	
R1311	ERJ6GEYJ472V	CHIP RESISTOR	1	
R1401	ERJ6GEYJ104V	CHIP RESISTOR	1	
R1402	ERJ6RBD821V	CHIP RESISTOR	1	
R1404	ERJ6RBD102V	CHIP RESISTOR	1	
R1405	ERJ6GEYJ513V	CHIP RESISTOR	1	
R1406	D1BFR0270001	RESISTOR ARRAY	1	
R1407	ERJ6RBD272V	CHIP RESISTOR	1	
R1409	ERJ6RBD472V	CHIP RESISTOR	1	
R1410	ERJ6RBD151V	CHIP RESISTOR	1	
R1411	ERJ6RBD123V	CHIP RESISTOR	1	
R1503	D0GB332JA057	CHIP RESISTOR	1	
R1505	ERDS2TJ271T	CARBON RESISTOR	1	
R1506	ERDS2TJ271T	CARBON RESISTOR	1	
R1512	ERDS2TJ271T	CARBON RESISTOR	1	
R1513	ERDS2TJ271T	CARBON RESISTOR	1	
R1518	ERJ6GEYJ103V	CHIP RESISTOR	1	
R1520	D0GB822JA057	CHIP RESISTOR	1	
R1562	ERDS2TJ331T	CARBON RESISTOR	1	
R1570	ERJ3RBD152V	CHIP RESISTOR	1	
R1571	ERJ3RBD153V	CHIP RESISTOR	1	
R1572	ERJ3RBD103V	CHIP RESISTOR	1	
R1573	ERDS2TJ271T	CARBON RESISTOR	1	
R1574	D0GB102JA057	CHIP RESISTOR	1	
R1601	D1BFR0150001	RESISTOR ARRAY	1	
R1602	ERJ6GEYJ513V	CHIP RESISTOR	1	
R1603	ERJ6RBD242V	CHIP RESISTOR	1	
R1604	ERJ6RBD153V	CHIP RESISTOR	1	
R1605	ERJ6RBD272V	CHIP RESISTOR	1	
R1701	D1BFR0270001	RESISTOR ARRAY	1	
R1702	D0GB333JA057	CHIP RESISTOR	1	
R1703	D0YBR0000020	CHIP RESISTOR	1	
R1704	ERJ3RBD103V	CHIP RESISTOR	1	
R1705	ERJ3RBD472V	CHIP RESISTOR	1	
R1800	ERJ6GEYJ471V	CHIP RESISTOR	1	
R1801	ERJ6GEYJ104V	CHIP RESISTOR	1	
R1802	ERJ6GEYJ472V	CHIP RESISTOR	1	
R1803	ERJ6GEYJ103V	CHIP RESISTOR	1	
R3001	D0YBR0000020	CHIP RESISTOR	1	
R3003	D0YBR0000020	CHIP RESISTOR	1	
R3004	D0YBR0000020	CHIP RESISTOR	1	
R3005	D0YBR0000020	CHIP RESISTOR	1	
R3006	D0GB822JA057	CHIP RESISTOR	1	
R3007	D0GB330JA057	CHIP RESISTOR	1	
R3054	ERJ3RED750V	CHIP RESISTOR	1	
R3055	ERJ3RED750V	CHIP RESISTOR	1	
R3056	ERJ3RED750V	CHIP RESISTOR	1	
R3057	ERJ3RED750V	CHIP RESISTOR	1	
R3058	ERJ3RED750V	CHIP RESISTOR	1	
R3059	ERJ3RED750V	CHIP RESISTOR	1	
R3075	D0YBR0000020	CHIP RESISTOR	1	
R3901	ERJ3RED750V	CHIP RESISTOR	1	
R3902	ERJ3RED750V	CHIP RESISTOR	1	
R3903	ERJ3RED750V	CHIP RESISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3910	D0YBR0000020	CHIP RESISTOR	1	
R3911	D0YBR0000020	CHIP RESISTOR	1	
R3912	D0GB103JA057	CHIP RESISTOR	1	
R3913	D0GB103JA057	CHIP RESISTOR	1	
R3914	D0GB471JA057	CHIP RESISTOR	1	
R3918	D0GB471JA057	CHIP RESISTOR	1	
R3919	ERJ3RED750V	CHIP RESISTOR	1	
R3920	ERJ3RED750V	CHIP RESISTOR	1	
R3921	ERJ3RED750V	CHIP RESISTOR	1	
R3922	D0GB471JA057	CHIP RESISTOR	1	
R3923	D0GB471JA057	CHIP RESISTOR	1	
R3924	ERDS2TJ121T	CARBON RESISTOR	1	
R3925	ERJ3RED750V	CHIP RESISTOR	1	
R3926	ERJ3RED750V	CHIP RESISTOR	1	
R3927	ERJ3RED750V	CHIP RESISTOR	1	
R3928	ERJ3RED750V	CHIP RESISTOR	1	
R3929	D0GB750JA057	CHIP RESISTOR	1	
R3930	D0GB750JA057	CHIP RESISTOR	1	
R3932	ERJ3RED750V	CHIP RESISTOR	1	
R3934	ERJ3RED750V	CHIP RESISTOR	1	
R3935	ERJ3RED750V	CHIP RESISTOR	1	
R3936	D0GB124JA057	CHIP RESISTOR	1	
R3937	D0GB124JA057	CHIP RESISTOR	1	
R3938	D0GB153JA057	CHIP RESISTOR	1	
R3975	D0GB101JA057	CHIP RESISTOR	1	
R3976	D0GB101JA057	CHIP RESISTOR	1	
R3979	D0YBR0000020	CHIP RESISTOR	1	
R3980	D0YBR0000020	CHIP RESISTOR	1	
R3983	D0GB103JA057	CHIP RESISTOR	1	
R3984	D0GB103JA057	CHIP RESISTOR	1	
R3987	D0GB473JA057	CHIP RESISTOR	1	
R3988	D0GB102JA057	CHIP RESISTOR	1	
R3989	D0GB102JA057	CHIP RESISTOR	1	
R3990	D0GB473JA057	CHIP RESISTOR	1	
R3991	D0GB473JA057	CHIP RESISTOR	1	
R3992	D0GB102JA057	CHIP RESISTOR	1	
R3993	D0GB102JA057	CHIP RESISTOR	1	
R3994	D0GB473JA057	CHIP RESISTOR	1	
R3998	D0GB154JA057	CHIP RESISTOR	1	
R3999	D0GB154JA057	CHIP RESISTOR	1	
R4006	D0GB823JA057	CHIP RESISTOR	1	
R4007	D0GB823JA057	CHIP RESISTOR	1	
R4008	D0GB823JA057	CHIP RESISTOR	1	
R4009	D0GB473JA057	CHIP RESISTOR	1	
R4012	D0GB473JA057	CHIP RESISTOR	1	
R4013	D0GB823JA057	CHIP RESISTOR	1	
R4016	D0GB225JA057	CHIP RESISTOR	1	
R4046	D0HB752ZA002	CHIP RESISTOR	1	
R4047	D0HB752ZA002	CHIP RESISTOR	1	
R4055	D0HB123ZA002	METAL FILM RESISTOR	1	
R4057	D0HB123ZA002	METAL FILM RESISTOR	1	
R4059	D0YBR0000020	CHIP RESISTOR	1	
R4066	D0HB103ZA002	METAL FILM RESISTOR	1	
R4067	D0HB103ZA002	METAL FILM RESISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4071	D0GB473JA057	CHIP RESISTOR	1	
R4074	D0GB473JA057	CHIP RESISTOR	1	
R4076	D0GB821JA057	CHIP RESISTOR	1	
R4077	D0GB101JA057	CHIP RESISTOR	1	
R4078	D0GB272JA057	CHIP RESISTOR	1	
R4079	D0GB272JA057	CHIP RESISTOR	1	
R4080	D0GB101JA057	CHIP RESISTOR	1	
R4081	D0GB821JA057	CHIP RESISTOR	1	
R4088	D0GB272JA057	CHIP RESISTOR	1	
R4089	D0GB272JA057	CHIP RESISTOR	1	
R4090	D0GB121JA057	CHIP RESISTOR	1	
R4093	D0GB121JA057	CHIP RESISTOR	1	
R4102	D0GB103JA057	CHIP RESISTOR	1	
R4103	D0YBR0000020	CHIP RESISTOR	1	
R4104	D0GB473JA057	CHIP RESISTOR	1	
R4105	D0GB223JA057	CHIP RESISTOR	1	
R4904	D0YBR0000020	CHIP RESISTOR	1	
R6801	D0GB101JA057	CHIP RESISTOR	1	
R6802	D0GB220JA057	CHIP RESISTOR	1	
R6803	D0GB220JA057	CHIP RESISTOR	1	
R6804	D0GB223JA057	CHIP RESISTOR	1	
R6805	D0GB123JA057	CHIP RESISTOR	1	
R6807	D0GB223JA057	CHIP RESISTOR	1	
R7101	D0GB103JA057	CHIP RESISTOR	1	
R7102	D0GB103JA057	CHIP RESISTOR	1	
R7103	ERJ6GEYJ201V	CHIP RESISTOR	1	
R7104	ERJ6GEYJ201V	CHIP RESISTOR	1	
R7105	ERJ6GEYJ201V	CHIP RESISTOR	1	
R7106	ERJ6GEYJ151V	CHIP RESISTOR	1	
R7108	D0GB473JA057	CHIP RESISTOR	1	
R7110	D0GB473JA057	CHIP RESISTOR	1	
R7112	D0GB473JA057	CHIP RESISTOR	1	
R7114	D0GB473JA057	CHIP RESISTOR	1	
R7301	D0YBR0000020	CHIP RESISTOR	1	
R7302	D0GB221JA057	CHIP RESISTOR	1	
R7303	D0GB221JA057	CHIP RESISTOR	1	
R7305	D0GB221JA057	CHIP RESISTOR	1	
R7306	D0GB103JA057	CHIP RESISTOR	1	
R7307	D0GB101JA057	CHIP RESISTOR	1	
R7308	D0GB101JA057	CHIP RESISTOR	1	
R7309	D0GB822JA057	CHIP RESISTOR	1	
R7310	D0YBR0000020	CHIP RESISTOR	1	
R7315	D0GB221JA057	CHIP RESISTOR	1	
R7316	D0GB221JA057	CHIP RESISTOR	1	
R7402	D0GB103JA057	CHIP RESISTOR	1	
R7403	D0GB153JA057	CHIP RESISTOR	1	
R7404	D0GB223JA057	CHIP RESISTOR	1	
R7405	ERDS2TJ181T	CARBON RESISTOR	1	
R7410	D0YBR0000020	CHIP RESISTOR	1	
R7421	D0GB101JA057	CHIP RESISTOR	1	
R7422	D0GB101JA057	CHIP RESISTOR	1	
R7438	D0GB220JA057	CHIP RESISTOR	1	
R7439	D0GB220JA057	CHIP RESISTOR	1	
R7440	D0GB220JA057	CHIP RESISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7441	D0GB220JA057	CHIP RESISTOR	1	
R7442	D0GB220JA057	CHIP RESISTOR	1	
R7462	ERJ3RBD153V	CHIP RESISTOR	1	
R7463	ERJ3RBD822V	CHIP RESISTOR	1	
R7464	D0YBR0000020	CHIP RESISTOR	1	
R7465	ERJ6GEYJ103V	CHIP RESISTOR	1	
R7466	ERJ6GEYJ513V	CHIP RESISTOR	1	
R7467	D1BFR039A010	RESISTOR ARRAY	1	
R7468	D0GB103JA057	CHIP RESISTOR	1	
R7490	D0YBR0000020	CHIP RESISTOR	1	
R7501	D0GB102JA057	CHIP RESISTOR	1	
R7502	D0GB392JA057	CHIP RESISTOR	1	
R7503	D0GB104JA057	CHIP RESISTOR	1	
R7504	D0GB102JA057	CHIP RESISTOR	1	
R7505	D1BB1502A010	CHIP RESISTOR	1	
R7506	D0GB104JA057	CHIP RESISTOR	1	
R7507	D1BB15010002	CHIP RESISTOR	1	
R7508	D1BB5601A010	CHIP RESISTOR	1	
R7518	ERJ3RED750V	CHIP RESISTOR	1	
R7519	ERJ3RED750V	CHIP RESISTOR	1	
R7520	ERJ3RED750V	CHIP RESISTOR	1	
R7521	D0GB473JA057	CHIP RESISTOR	1	
R7523	D0GB473JA057	CHIP RESISTOR	1	
R7524	D0GB101JA057	CHIP RESISTOR	1	
R7526	D0GB101JA057	CHIP RESISTOR	1	
R7527	D0GB101JA057	CHIP RESISTOR	1	
R7528	D0GB101JA057	CHIP RESISTOR	1	
R7529	D0GB101JA057	CHIP RESISTOR	1	
R7531	D0GB104JA057	CHIP RESISTOR	1	
R7532	D0GB332JA057	CHIP RESISTOR	1	
R7533	D0YBR0000020	CHIP RESISTOR	1	
R7534	D0GB103JA057	CHIP RESISTOR	1	
R7535	D0GB101JA057	CHIP RESISTOR	1	
R7536	D0GB101JA057	CHIP RESISTOR	1	
R7537	D0GB101JA057	CHIP RESISTOR	1	
R7541	D0GB101JA057	CHIP RESISTOR	1	
R7543	D0GB101JA057	CHIP RESISTOR	1	
R7544	D0GB101JA057	CHIP RESISTOR	1	
R7545	D0GB473JA057	CHIP RESISTOR	1	
R7546	D0GB473JA057	CHIP RESISTOR	1	
R7547	D0GB473JA057	CHIP RESISTOR	1	
R7548	D0GB472JA057	CHIP RESISTOR	1	
R7549	D0GB332JA057	CHIP RESISTOR	1	
R7550	D0GB223JA057	CHIP RESISTOR	1	
R7551	D0GB101JA057	CHIP RESISTOR	1	
R7552	D0GB101JA057	CHIP RESISTOR	1	
R7553	D0GB101JA057	CHIP RESISTOR	1	
R7557	D0GB511JA057	CHIP RESISTOR	1	
R7558	D0GB202JA057	CHIP RESISTOR	1	
R7559	D0GB202JA057	CHIP RESISTOR	1	
R7560	D0GB472JA057	CHIP RESISTOR	1	
R7561	D0GB101JA057	CHIP RESISTOR	1	
R7562	D0GB101JA057	CHIP RESISTOR	1	
R7563	D0GB101JA057	CHIP RESISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7564	D0GB101JA057	CHIP RESISTOR	1	
R7565	D0GB101JA057	CHIP RESISTOR	1	
R7566	D0GB101JA057	CHIP RESISTOR	1	
R7568	D0GB101JA057	CHIP RESISTOR	1	
R7570	D0GB392JA057	CHIP RESISTOR	1	
R7571	D0GB101JA057	CHIP RESISTOR	1	
R7572	D0GB101JA057	CHIP RESISTOR	1	
R7575	D0GB101JA057	CHIP RESISTOR	1	
R7576	D0GB102JA057	CHIP RESISTOR	1	
R7577	D0GB103JA057	CHIP RESISTOR	1	
R7578	D0GB103JA057	CHIP RESISTOR	1	
R7579	D0GB223JA057	CHIP RESISTOR	1	
R7582	D0GB104JA057	CHIP RESISTOR	1	
R7583	D0GB472JA057	CHIP RESISTOR	1	
R7584	D0GB473JA057	CHIP RESISTOR	1	
R7585	D0GB225JA057	CHIP RESISTOR	1	
R7586	D0GB433JA057	CHIP RESISTOR	1	
R7587	D0GB224JA057	CHIP RESISTOR	1	
R7588	D0GB104JA057	CHIP RESISTOR	1	
R7589	D0GB221JA057	CHIP RESISTOR	1	
R7590	D0GB104JA057	CHIP RESISTOR	1	
R7592	D0GB101JA057	CHIP RESISTOR	1	
R7594	D0GB223JA057	CHIP RESISTOR	1	
R7597	D0GB822JA057	CHIP RESISTOR	1	
R7598	D0GB822JA057	CHIP RESISTOR	1	
R7599	D0GB822JA057	CHIP RESISTOR	1	
R7600	D0GB103JA057	CHIP RESISTOR	1	
R7601	D0GB102JA057	CHIP RESISTOR	1	
R7604	D0GB331JA057	CHIP RESISTOR	1	
R7605	D0GB331JA057	CHIP RESISTOR	1	
R7606	D1BB3902A010	CHIP RESISTOR	1	
R7607	D0GB331JA057	CHIP RESISTOR	1	
R7608	D1BB4302A010	CHIP RESISTOR	1	
R7612	D0GB332JA057	CHIP RESISTOR	1	
R7614	D0GB470JA057	CHIP RESISTOR	1	
R7615	ERDS2TJ471T	CARBON RESISTOR	1	
R7617	D0GB473JA057	CHIP RESISTOR	1	
R7618	D0GB473JA057	CHIP RESISTOR	1	
R7619	D0GB103JA057	CHIP RESISTOR	1	
R7620	D0GB473JA057	CHIP RESISTOR	1	
R7621	D0GB104JA057	CHIP RESISTOR	1	
R7622	D0GB153JA057	CHIP RESISTOR	1	
R7623	D0GB181JA057	CHIP RESISTOR	1	
R7624	D0GB223JA057	CHIP RESISTOR	1	
R7625	D0GB183JA057	CHIP RESISTOR	1	
R7628	D0GB223JA057	CHIP RESISTOR	1	
R7632	D0GB682JA057	CHIP RESISTOR	1	
R7634	D0GB682JA057	CHIP RESISTOR	1	
R7636	D0GB682JA057	CHIP RESISTOR	1	
R7638	D0GB682JA057	CHIP RESISTOR	1	
R7639	D0GB272JA057	CHIP RESISTOR	1	
R7640	D0GB272JA057	CHIP RESISTOR	1	
R7641	D0GB473JA057	CHIP RESISTOR	1	
R7642	D0GB562JA057	CHIP RESISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7643	D0GB562JA057	CHIP RESISTOR	1	
R7644	D0GB222JA057	CHIP RESISTOR	1	
R7648	ERDS2TJ330T	CARBON RESISTOR	1	
R7649	D0GB101JA057	CHIP RESISTOR	1	
R7660	D0GB103JA057	CHIP RESISTOR	1	
R7662	D0GB103JA057	CHIP RESISTOR	1	
R7663	D0GB821JA057	CHIP RESISTOR	1	
R7664	D0GB303JA057	CHIP RESISTOR	1	
R7665	D0GB753JA057	CHIP RESISTOR	1	
R7666	D0GB101JA057	CHIP RESISTOR	1	
R7667	D0GB101JA057	CHIP RESISTOR	1	
R7668	D0GB101JA057	CHIP RESISTOR	1	
R7669	D0GB472JA057	CHIP RESISTOR	1	
R7669	D0GB472JA057	CHIP RESISTOR	1	
R7670	D0GB101JA057	CHIP RESISTOR	1	
R7671	D0YBR0000020	CHIP RESISTOR	1	
R7699	ERJ3RBD273V	CHIP RESISTOR	1	
R7801	D0GB681JA057	CHIP RESISTOR	1	
R7802	D0GB821JA057	CHIP RESISTOR	1	
R7803	D0GB681JA057	CHIP RESISTOR	1	
R7804	D0GB102JA057	CHIP RESISTOR	1	
R7805	D0GB102JA057	CHIP RESISTOR	1	
R7806	D0GB271JA057	CHIP RESISTOR	1	
R7807	D0YBR0000020	CHIP RESISTOR	1	
R7808	D0YBR0000020	CHIP RESISTOR	1	
R7809	D0YBR0000020	CHIP RESISTOR	1	
R7810	D0YBR0000020	CHIP RESISTOR	1	
R7811	D0GB562JA057	CHIP RESISTOR	1	
R7812	D0GB471JA057	CHIP RESISTOR	1	
R7813	D0GB101JA057	CHIP RESISTOR	1	
R7814	D0GB101JA057	CHIP RESISTOR	1	
R7815	D0GB101JA057	CHIP RESISTOR	1	
R7816	D0GB101JA057	CHIP RESISTOR	1	
R7817	D0GB101JA057	CHIP RESISTOR	1	
R7826	D0YBR0000020	CHIP RESISTOR	1	
R7827	D0GB471JA057	CHIP RESISTOR	1	
R7828	D0GB471JA057	CHIP RESISTOR	1	
R7829	D0GB102JA057	CHIP RESISTOR	1	
R7830	D0GB681JA057	CHIP RESISTOR	1	
R7833	D0YBR0000020	CHIP RESISTOR	1	
R7834	D0YBR0000020	CHIP RESISTOR	1	
R9008	D0GB181JA057	CHIP RESISTOR	1	
R9010	D0GB152JA057	CHIP RESISTOR	1	
R9011	D0GB152JA057	CHIP RESISTOR	1	
R9012	D0GB100JA057	CHIP RESISTOR	1	
R9013	D0GB330JA057	CHIP RESISTOR	1	
R9014	D0GB330JA057	CHIP RESISTOR	1	
R9015	D0YBR0000020	CHIP RESISTOR	1	
R9016	D0YBR0000020	CHIP RESISTOR	1	
R9017	D1BB10020004	CHIP RESISTOR	1	
R9028	D0YBR0000020	CHIP RESISTOR	1	
R9029	D0GB103JA057	CHIP RESISTOR	1	
R9030	D0GB474JA057	CHIP RESISTOR	1	
R9031	D0GB103JA057	CHIP RESISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R9032	D0GB103JA057	CHIP RESISTOR	1	
R9033	D0GB103JA057	CHIP RESISTOR	1	
R9034	D0GB103JA057	CHIP RESISTOR	1	
R9037	D0YBR0000020	CHIP RESISTOR	1	
R9038	D0YBR0000020	CHIP RESISTOR	1	
R9201	D0GB104JA057	CHIP RESISTOR	1	
R9202	D0GB104JA057	CHIP RESISTOR	1	
R9203	D0YBR0000020	CHIP RESISTOR	1	
R9204	D0GB332JA057	CHIP RESISTOR	1	
R9205	D0GB104JA057	CHIP RESISTOR	1	
R9206	D0GB105JA057	CHIP RESISTOR	1	
R9207	D0GB101JA057	CHIP RESISTOR	1	
R9208	D0GB101JA057	CHIP RESISTOR	1	
R9209	D0GB101JA057	CHIP RESISTOR	1	
R9210	D0GB181JA057	CHIP RESISTOR	1	
R9211	D0GB101JA057	CHIP RESISTOR	1	
R9212	D0GB103JA057	CHIP RESISTOR	1	
R9213	D0GB750JA057	CHIP RESISTOR	1	
R9214	D0GB103JA057	CHIP RESISTOR	1	
R9215	D0GB103JA057	CHIP RESISTOR	1	
R9216	D0GB103JA057	CHIP RESISTOR	1	
R9218	D0GB472JA057	CHIP RESISTOR	1	
R9220	D0GB103JA057	CHIP RESISTOR	1	
R9221	D0GB750JA057	CHIP RESISTOR	1	
R9223	D0GB103JA057	CHIP RESISTOR	1	
R9224	D0GB334JA057	CHIP RESISTOR	1	
R9226	D0YBR0000020	CHIP RESISTOR	1	
R9227	D1HG5608A002	RESISTOR ARRAY	1	
R9228	D1HG5608A002	RESISTOR ARRAY	1	
R9229	D1HG5608A002	RESISTOR ARRAY	1	
R9230	D1HG5608A002	RESISTOR ARRAY	1	
R9231	D1HG5608A002	RESISTOR ARRAY	1	
R9232	D1HG5608A002	RESISTOR ARRAY	1	
R9233	D1HG5608A002	RESISTOR ARRAY	1	
R9234	D1HG5608A002	RESISTOR ARRAY	1	
R9235	D1HG5608A002	RESISTOR ARRAY	1	
R9236	D0GB103JA057	CHIP RESISTOR	1	
R9237	D0YBR0000020	CHIP RESISTOR	1	
R9239	D0GB820JA057	CHIP RESISTOR	1	
R9240	D0GB820JA057	CHIP RESISTOR	1	
R9241	D0GB560JA057	CHIP RESISTOR	1	
R9242	D0GB560JA057	CHIP RESISTOR	1	
R9243	D0GB560JA057	CHIP RESISTOR	1	
R9244	D0GB560JA057	CHIP RESISTOR	1	
R9245	D0GB560JA057	CHIP RESISTOR	1	
R9246	D0GB560JA057	CHIP RESISTOR	1	
R9247	D0GB220JA057	CHIP RESISTOR	1	
R9249	D0GB103JA057	CHIP RESISTOR	1	
R9250	D0GB103JA057	CHIP RESISTOR	1	
R9254	D0GB103JA057	CHIP RESISTOR	1	
R9301	D0GB330JA057	CHIP RESISTOR	1	
R9302	D0GB103JA057	CHIP RESISTOR	1	
R9303	D0GB103JA057	CHIP RESISTOR	1	
R9305	D0GB103JA057	CHIP RESISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R9306	D0GB472JA057	CHIP RESISTOR	1	
R9307	D0GB103JA057	CHIP RESISTOR	1	
R9308	D0GB103JA057	CHIP RESISTOR	1	
R9309	D0GB472JA057	CHIP RESISTOR	1	
R9310	D0GB103JA057	CHIP RESISTOR	1	
R9311	D0GB103JA057	CHIP RESISTOR	1	
R9312	D0GB103JA057	CHIP RESISTOR	1	
R9313	D0GB103JA057	CHIP RESISTOR	1	
R9314	D0GB103JA057	CHIP RESISTOR	1	
R9315	D0GB103JA057	CHIP RESISTOR	1	
R9316	D0YBR0000020	CHIP RESISTOR	1	
R9317	D0GB103JA057	CHIP RESISTOR	1	
R9318	D0GB103JA057	CHIP RESISTOR	1	
R9319	D0GB103JA057	CHIP RESISTOR	1	
R9320	D0YBR0000020	CHIP RESISTOR	1	
R9322	D0YBR0000020	CHIP RESISTOR	1	
R9501	D1BB10020004	CHIP RESISTOR	1	
R9502	D0YBR0000020	CHIP RESISTOR	1	
R9503	D1BB10020004	CHIP RESISTOR	1	
R9504	D0YBR0000020	CHIP RESISTOR	1	
R9505	D1BB2000A010	CHIP RESISTOR	1	
R9506	D1BB33000002	CHIP RESISTOR	1	
R9507	D1BB33000002	CHIP RESISTOR	1	
R9508	D1BB33000002	CHIP RESISTOR	1	
R9509	D1BB33000002	CHIP RESISTOR	1	
R9801	D0GB101JA057	CHIP RESISTOR	1	
R9802	D0GB101JA057	CHIP RESISTOR	1	
R9803	D0GB101JA057	CHIP RESISTOR	1	
R9804	D0GB101JA057	CHIP RESISTOR	1	
R9805	D0GB101JA057	CHIP RESISTOR	1	
R9806	D0GB101JA057	CHIP RESISTOR	1	
R9903	D0GB240JA057	CHIP RESISTOR	1	
R9904	D0GB240JA057	CHIP RESISTOR	1	
R9905	D0GB240JA057	CHIP RESISTOR	1	
R9906	D0GB240JA057	CHIP RESISTOR	1	
R9907	ERJ3RBD103V	CHIP RESISTOR	1	
R9908	ERJ3RBD103V	CHIP RESISTOR	1	
R9909	ERJ3RBD103V	CHIP RESISTOR	1	
R9910	ERJ3RBD103V	CHIP RESISTOR	1	
R9911	ERJ3RED204V	RESISTOR	1	
R9912	ERJ3RED204V	RESISTOR	1	
R9915	ERJ3RED204V	RESISTOR	1	
R9916	ERJ3RED204V	RESISTOR	1	
R9917	D0GB103JA057	CHIP RESISTOR	1	
R9918	D0GB103JA057	CHIP RESISTOR	1	
R9919	D0GB471JA057	CHIP RESISTOR	1	
R9920	D0GB471JA057	CHIP RESISTOR	1	
RX6801	D1H82204A024	RESISTOR ARRAY	1	
RX6802	D1H81234A024	RESISTOR ARRAY	1	
S7001	EVQPC105K	TOUCH SWITCH	1	
S7501	EVQPC105K	TOUCH SWITCH	1	
S7502	EVQPC105K	TOUCH SWITCH	1	
S7503	EVQPC105K	TOUCH SWITCH	1	
S7504	EVQPC105K	TOUCH SWITCH	1	

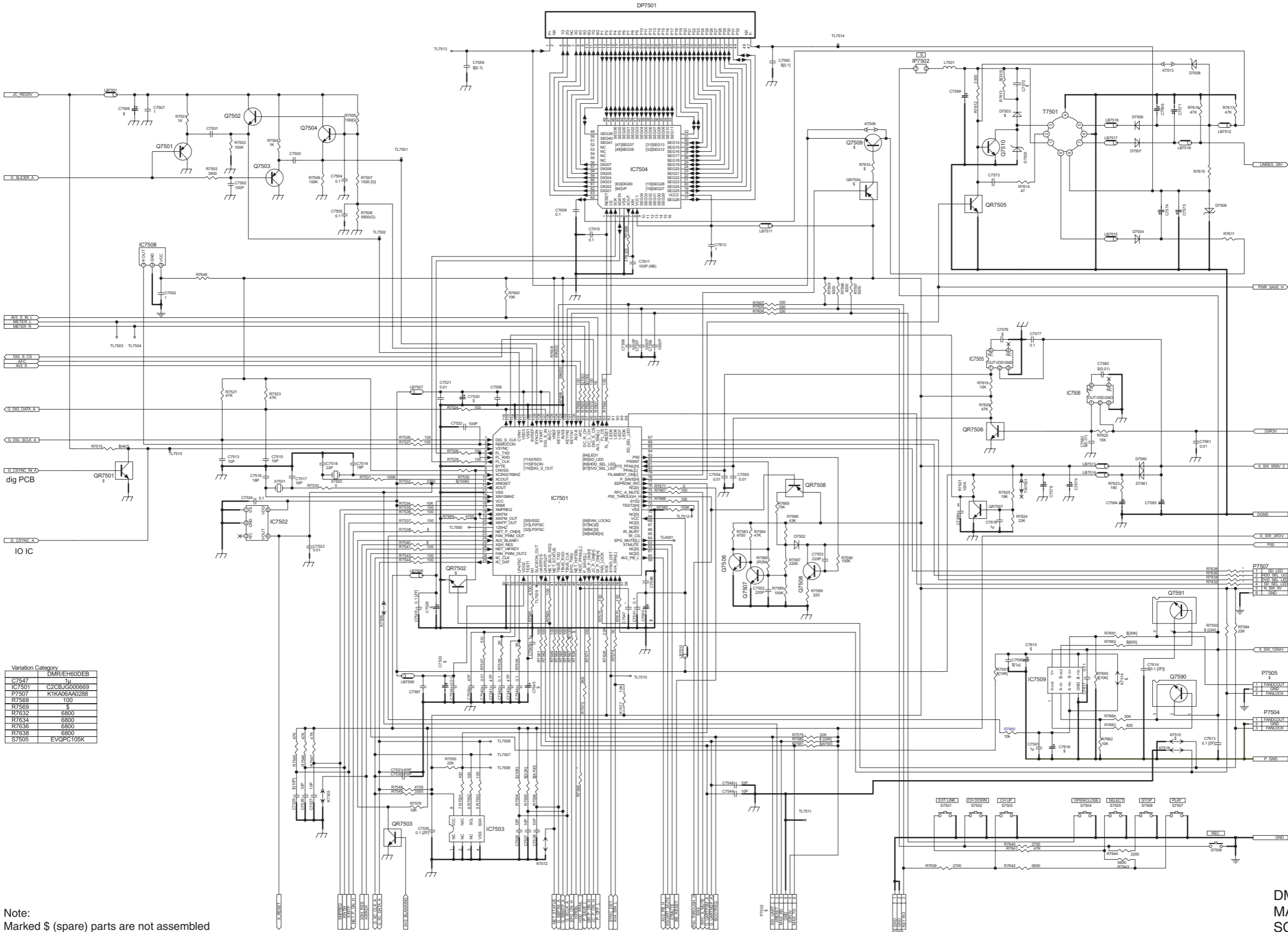
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
S7505	EVQPC105K	TOUCH SWITCH	1	
S7506	EVQPC105K	TOUCH SWITCH	1	
S7507	EVQPC105K	TOUCH SWITCH	1	
S7508	EVQPC105K	TOUCH SWITCH	1	
T1150	ETS29AZ2G6AC	TRANSFORMER	1	⚠
T7501	G4D1C0000003	TRANSFORMER	1	
VA1110	ERZVA5V471	SURGE ABSORBER	1	⚠
VR0701	EVNCYAA03B14	VARIABLE RESISTOR	1	
W1	ERJ8GEY0R00V	CHIP RESISTOR	1	
W10	D0YBR0000020	CHIP RESISTOR	1	
W12	D0YBR0000020	CHIP RESISTOR	1	
W13	D0YDR0000006	CHIP RESISTOR	1	
W13	ERJ8GEY0R00V	CHIP RESISTOR	1	
W14	D0YDR0000006	CHIP RESISTOR	1	
W14	ERJ8GEY0R00V	CHIP RESISTOR	1	
W15	D0YDR0000006	CHIP RESISTOR	1	
W16	D0YDR0000006	CHIP RESISTOR	1	
W16	ERJ8GEY0R00V	CHIP RESISTOR	1	
W17	D0YDR0000006	CHIP RESISTOR	1	
W18	D0YDR0000006	CHIP RESISTOR	1	
W2	ERJ8GEY0R00V	CHIP RESISTOR	1	
W3	ERJ8GEY0R00V	CHIP RESISTOR	1	
W4	D0YDR0000006	CHIP RESISTOR	1	
W400	D0YBR0000020	CHIP RESISTOR	1	
W401	D0YBR0000020	CHIP RESISTOR	1	
W403	D0YBR0000020	CHIP RESISTOR	1	
W404	D0YBR0000020	CHIP RESISTOR	1	
W405	D0YBR0000020	CHIP RESISTOR	1	
W406	D0YBR0000020	CHIP RESISTOR	1	
W407	D0YBR0000020	CHIP RESISTOR	1	
W408	D0YBR0000020	CHIP RESISTOR	1	
W409	D0YBR0000020	CHIP RESISTOR	1	
W410	D0YBR0000020	CHIP RESISTOR	1	
W411	D0YBR0000020	CHIP RESISTOR	1	
W412	D0YBR0000020	CHIP RESISTOR	1	
W413	D0YBR0000020	CHIP RESISTOR	1	
W414	D0YBR0000020	CHIP RESISTOR	1	
W415	D0YBR0000020	CHIP RESISTOR	1	
W416	D0YBR0000020	CHIP RESISTOR	1	
W417	D0YBR0000020	CHIP RESISTOR	1	
W418	D0YBR0000020	CHIP RESISTOR	1	
W419	D0YBR0000020	CHIP RESISTOR	1	
W420	D0YBR0000020	CHIP RESISTOR	1	
W421	D0YBR0000020	CHIP RESISTOR	1	
W5	ERJ8GEY0R00V	CHIP RESISTOR	1	
W6	ERJ8GEY0R00V	CHIP RESISTOR	1	
W7	D0YDR0000006	CHIP RESISTOR	1	
W8	D0YDR0000006	CHIP RESISTOR	1	
W9	ERJ8GEY0R00V	CHIP RESISTOR	1	
X0701	J0B4155A0003	CRYSTAL OSCILLATOR	1	
X0704	VLF1495	FILTER	1	
X7301	H0D245500016	CRYSTAL OSCILLATOR	1	
X7501	H0D100500018	OSCILLATOR	1	
X7502	H0A327200108	CRYSTAL OCSILLATOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
X7801	J0C3615A0002	SAW FILTER	1	
X9002	H0J270500100	CRYSTAL OSCILLATOR	1	
X9201	H0J270500098	CRYSTAL OSCILLATOR	1	
X9202	H0J327200091	CRYSTAL	1	
ZA0701	VMP4471-1	ANGLE	1	
ZA1103	EYF52BCY	FUSE HOLDER	1	
ZA1104	EYF52BCY	FUSE HOLDER	1	
ZA1105	K9ZZ00001279	EARTH FITTING	1	
ZA1106	K9ZZ00001279	EARTH FITTING	1	
ZA1150	VSC5603	HEAT SINK	1	
ZA1270	VSC5604	HEAT SINK	1	
ZJ3001	K9ZZ00001279	EARTH FITTING	1	
ZJ7401	K9ZZ00001279	EARTH FITTING	1	
ZJ7402	K9ZZ00001279	EARTH FITTING	1	
ZJ7404	K9ZZ00001279	EARTH FITTING	1	
ZJ7420	K9ZZ00001279	EARTH FITTING	1	
ZJ7422	K9ZZ00001279	EARTH FITTING	1	
ZJ7423	K9ZZ00001279	EARTH FITTING	1	
ZJ7424	K9ZZ00001279	EARTH FITTING	1	
ZJ7501	K9ZZ00001279	EARTH FITTING	1	

23.4. SERVICE FIXTURE AND TOOLS

Ref. No.	Part No.	Part Name & Description	PCS	Remarks
	RFKZ0125	Extension FFC (Digital P.C.B. - DVD-RAM Drive / 40 Pin)	1	Same as E30/HS2/ E50/E55/ ES10 series (SPC)
	RFKZ0126	Extension Cable (Power & Digital I/F P.C.B. - DVD-RAM Drive / 4 Pin)	1	Same as E30/HS2/ ES10 series (SPC)
	RFKZ0216	Extension Cable (Main P.C.B. - Power P.C.B. 23 Pin)	1	Same as E50/E55 series (SPC)

24. DIAGRAMS FOR PRINTING WITH A4

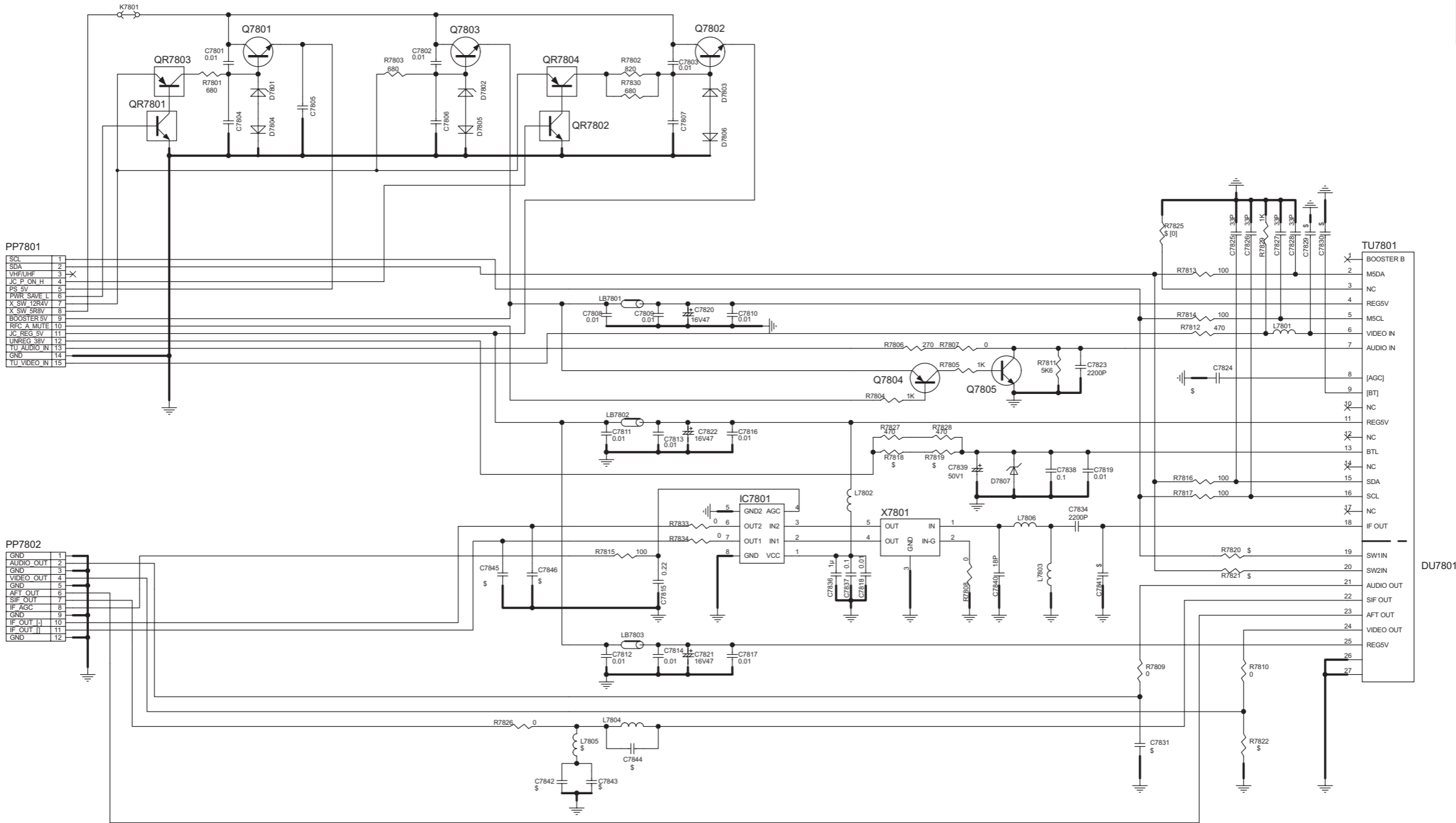


DMR-EH60DEB

MAIN TIMER

SCHEMATIC DIAGRAM

NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT

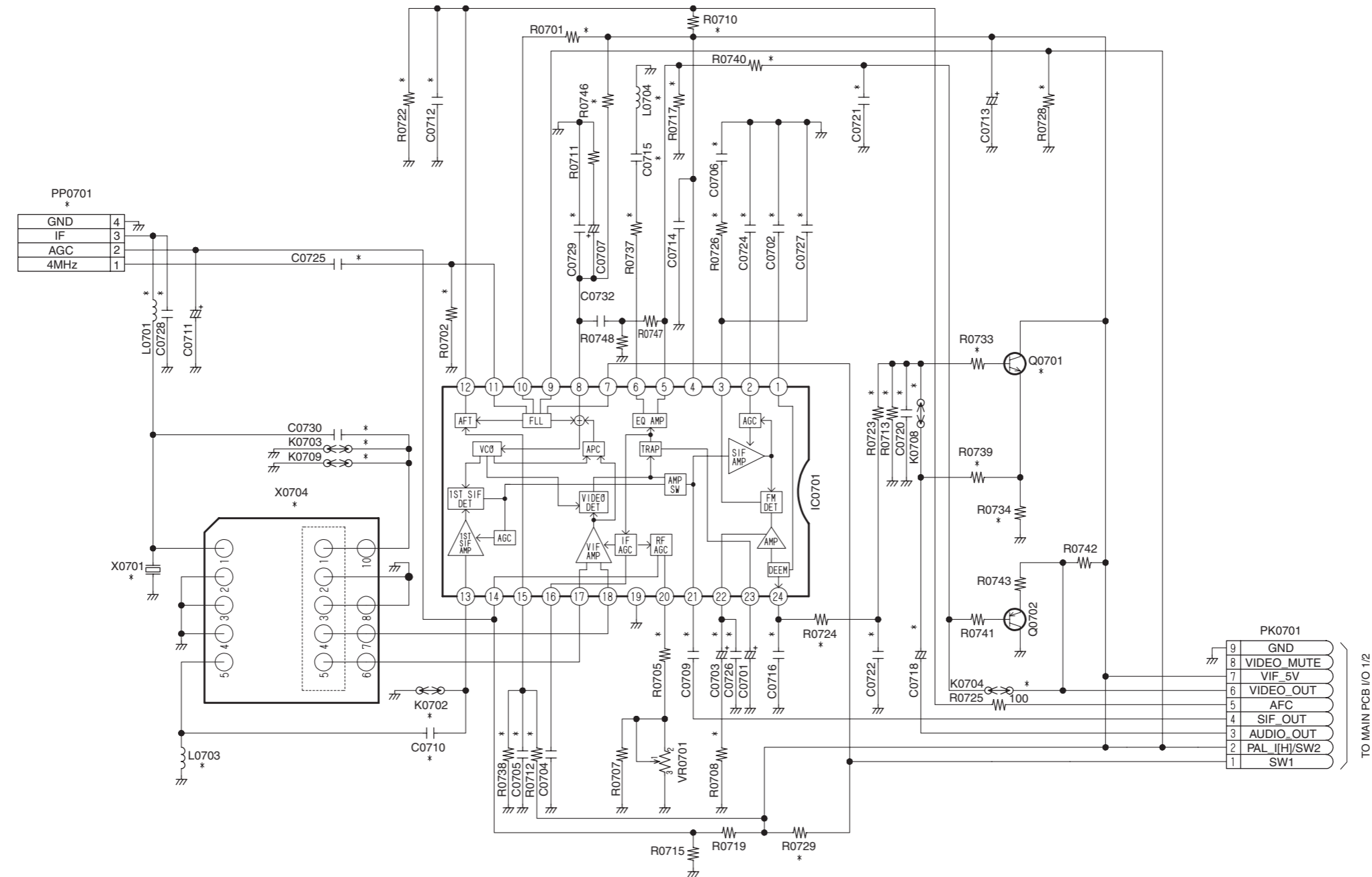


Note:
Marked \$ (spare) parts are not assembled

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT



Note:
Marked \$ (spare) parts are not assembled

DMR-EH60DEB
VIF-UNIT
SCHEMATIC DIAGRAM

DVD / HDD Controls

DVD/VHS Stand-by/on switch
Press to switch the unit from on to stand-by mode or vice versa. In stand-by mode, the unit is still consuming a small amount of power.
Switching this unit into standby mode does not disconnect it from the mains.

DIRECT TV REC Direct TV record to DVD.

DISPLAY Launch the disc menu.

GUIDE Launch the TV GUIDE system.

Smart Wheel: Press up, down, left or right to select the Function in the menu. Rotate the wheel to select the parameter.
ENTER: Select or save a setting.
◀▶ Still picture or time loop playback.
Display the programme information from the TV GUIDE or the Banner.

SUB MENU Launch DVD sub menus.

STATUS Time and detail information appears on the screen.

INPUT SELECT Switch button of the AV input between AV1, AV2 and AV3 (front) / AV4 and DV.

CANCEL Cancel a function.

VIDEO Plus+ Video Plus+ menu

SLOW/SEARCH Search or slow motion playback.

STOP Stops recording, replay or forward / reverse action

PAUSE Pause a recording or playback.

REC Start the recording.

TIMER Switch timer on and off.

EXT LINK Record with external recording control.

PROG CHECK TIMER RECORDING menu

STTL Displays of hides subtitles.
Audio L/R function: Press and hold STTL for more than 5 seconds.

TV Turn the television set on and off.
AV Select the AV input on the television set.
CH: Select the channel on the television set.
VOLUME: Volume control of the television set.

HDD DVD SD Press the corresponding button to operate the desired element.

Number buttons - direct input
5: 0 + 5 15: 1 + 5
MP3/JPEG 5: 0 + 0 + 5 15: 0 + 1 + 5

DIRECT NAVIGATOR TITLE VIEW
TOP MENU: Main menu of DVD-video.

FUNCTION selection menu.

Launch or Exit the MHEG service.

RETURN Exit a menu.

TIME SLIP Select the timeframe to be skipped.

PAGE
PAGE: Page in the electronic TV Guide.
CH: Channel select button.

PLAY/x1.3 Starts playback.
PLAY/ x1.3
RAM - You can increase the playback speed
Hold PLAY▶ during playback.

SKIP Skip chapters, titles, or pictures.

REC MODE Record mode button XP, SP, LP, EP

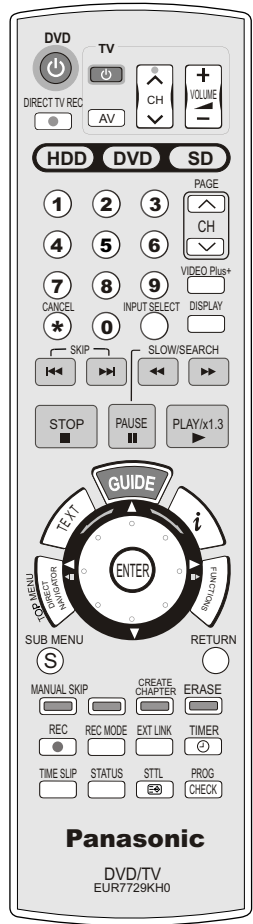
MANUAL SKIP Jumps forward 30 seconds.
Red Button: Functions in MHEG Service, Edit Profile, TV Guide.

Green Button: Functions in MHEG Service, Edit Profile, TV Guide.

CREATE CHAPTER Split the recording into chapters.
Yellow Button: Functions in MHEG Service, Edit Profile, TV Guide.

ERASE Erase a title or a chapter.
Blue Button: Functions in MHEG Service, Edit Profile, TV Guide, Banner.

OPEN/CLOSE Front Panel Button: Open and close the disc tray



SPECIFICATIONS

Power supply:	AC220-240 V, 50/60 Hz	DV input:	PAL / NTSC (IEEE1394 Standard) 4pin	
Power consumption:	33 W +/-1,3W Power Save mode: approx. 3W+/-0,4W	Picture input:	SD Card Slot Compatible Cards Format / Pixels	JPEG/TIFF Still Picture SD Card / Multimedia Card miniSD™ Card with adapter FAT12, FAT16 / 34x34 to 6144x4096
Dimensions and Mass:	430 (W)×337 (D)×63 (H) mm (excluding protrusions) / 4.5kg	Video input:	Video in AV1 / AV2 Video in AV3 / AV4 S-Video in AV1 / AV2 S-Video in AV3 / AV4 RGB Video in AV2 (PAL)	21 pin connector (1.0Vp-p, 75Ω) pin jack connector (1.0Vp-p, 75Ω) 21 pin connector (Y: 1.0Vp-p, C:0,3Vp-p 75Ω) pin jack connector (1.0Vp-p, C:0,3Vp-p 75Ω) 21pin connector (0.7 Vp-p 75Ω)
Operating temperature range:	+5 to +40°C	Video output:	Video out AV1 / AV2 FBAS (Composit) S-Video out RGB Video AV1 Component Video out	21 pin connector (1.0Vp-p, 75Ω) pin jack connector (1.0Vp-p, 75Ω) pin jack, 21pin (AV1) and S connector (Y: 1.0 Vp-p, 75Ω) 21pin connector (0.7 Vp-p 75Ω) pin jack connector Y (1.0Vp-p 75Ω) pin jack connector PB (0.7Vp-p 75Ω) pin jack connector PR (0.7Vp-p 75Ω)
Operating humidity range:	10 to 80% RH (no condensation)	Audio input:	EURO AV (AV1 / AV2) CINCH IN (AV3 / AV4)	21 pin connector (-6dBV, 500mV, more than 10kΩ) pin jack connector (-6dBV, 500mV, more than 10kΩ)
Pickup:	Laser power Wave length	Audio output:	CINCH OUT EURO AV (AV1 / AV2) OPTICAL OUT	pin jack connector (-6dBV, 500mV, less than 1kΩ) 21 pin connector (-6dBV, 500mV, less than 1kΩ) PCM, Dolby Digital, DTS, MPEG
	CLASS2/CLASS1 662nm / 795nm No hazardous radiation is emitted with the safety protection			
Recording system:	MPEG2 (Hybrid VBR) Audio: Dolby Digital 2CH			
Signal system:	PAL625/50, NTSC525/60			
DVD Region number:	Region No.2			
Internal HARD DISC DRIVE:	160GB / max. 284h (EP mode)			
DVD Recording, Playable discs:	DVD-RAM: 12cm 4.7GB / 9.4GB / 8cm 2.8GB DVD-R: 12cm 4.7GB / 8cm 1.4GB DVD-RW: 12cm 4.7GB DVD+R: 12cm 4.7GB			
DVD approximate Recording time (using 4.7GB disc):	XP: 10 MBps 60min SP: 5 MBps 120min LP: 3 MBps 240min EP: 1.7 / 1.2 MBps 360 - 480min			
Playable disc type:	DVD-RAM DVD-R, DVD-RW DVD+R, DVD+RW DVD-Video, DVD-Audio CD-Audio (CD-DA), Video CD SVCD (IEC62107) CD-R/CD-RW (CD-DA, Video CD formatted discs) MP3 (audio), JPG (picture) Maximum tracks 999 tracks (recognizable) Maximum groups 99 groups (recognizable)			
TV tuner system:	UHF: CH21-CH68			
RF Converter Output:	CH21-CH68 (71±3dBuV; 75Ω)			

MPEG Layer 2 audio decoding technology licensed from Fraunhofer

Note:
Specifications are subject to change without notice.
Mass and dimensions are approximate.

MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

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■ **Built-in decoders**
You can play discs with these symbols.



[illegible]

Ref.No Mode	IC 7501														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Stop	4,50	5,01	0,24	0,60	0,62	4,50	0,01	0,01	0,89	1,25	5,05	1,85	0,01	2,08	3,43
Play	4,50	5,01	0,24	0,60	0,62	4,50	0,01	0,01	0,89	1,25	5,05	1,85	0,01	2,08	3,43
Rec	4,48	5,01	0,24	0,60	0,62	4,50	0,01	0,01	0,89	1,25	5,05	1,85	0,01	2,08	3,43
Ref.No Mode															
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Stop	5,05	3,32	3,26	3,26	3,41	0,03	0,03	0,03	3,43	0,03	0,01	0,03	4,42	4,00	0,01
Play	5,05	3,32	3,26	3,26	3,41	0,03	0,03	0,03	3,43	0,03	0,01	0,03	4,42	4,00	0,01
Rec	5,05	3,32	3,26	3,26	3,41	0,03	0,03	1,32	3,43	0,03	0,01	0,03	4,42	4,00	0,01
Ref.No Mode															
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Stop	0,90	1,58	0,01	5,05	2,57	0,01	0,03	0,11	3,30	3,42	0,02	0,12	3,25	3,42	0,03
Play	0,92	1,58	1,19	5,05	2,58	0,02	0,03	0,12	3,29	3,43	0,02	0,14	3,25	3,42	0,03
Rec	0,90	1,58	0,01	5,05	0,04	0,02	0,03	0,11	3,30	3,42	0,02	0,12	3,25	3,42	0,03
Ref.No Mode															
	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Stop	0,03	5,04	5,05	5,03	5,01	5,00	0,00	5,04	0,01	5,05	0,01	0,03	0,03	0,03	0,03
Play	0,03	5,03	5,04	5,02	5,01	4,99	0,00	5,03	0,01	5,04	0,01	0,03	0,04	0,03	0,03
Rec	0,03	5,04	5,05	5,03	5,01	5,00	0,00	5,04	0,01	5,03	0,01	0,03	0,04	0,03	0,03
Ref.No Mode															
	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Stop	0,03	5,05	5,05	0,03	0,03	0,03	0,03	0,03	5,05	0,03	0,01	0,03	0,03	0,05	5,05
Play	0,03	5,05	5,04	0,04	0,04	0,04	0,03	0,03	5,05	0,04	0,02	0,02	0,04	0,06	5,04
Rec	0,03	5,05	5,05	0,03	0,03	0,03	0,03	0,03	5,05	0,03	0,01	0,03	0,03	0,05	5,05
Ref.No Mode															
	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
Stop	0,03	5,05	0,03	0,03	5,03	0,03	5,04	0,03	0,03	0,03	0,03	5,05	0,03	0,03	0,03
Play	0,03	5,04	0,03	0,04	5,03	0,03	5,04	0,04	0,04	0,03	0,03	5,04	0,04	0,03	0,03
Rec	0,03	5,05	0,03	0,03	5,03	0,03	5,04	0,03	0,03	0,03	0,03	5,04	0,03	0,03	0,03
Ref.No Mode															
	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
Stop	0,03	0,03	5,05	0,03	5,05	2,59	0,06	0,06	4,81	0,00	5,05	5,05	0,01	5,05	5,05
Play	0,03	0,03	5,04	0,03	5,05	2,59	0,03	0,03	4,82	4,22	5,04	5,04	0,02	5,04	5,04
Rec	0,03	0,03	5,05	0,03	5,03	2,59	0,06	0,06	4,81	0,00	5,04	5,04	0,01	5,03	5,03
Ref.No Mode															
	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Stop	5,05	3,86	5,05	1,63	1,28	0,01	5,06	1,65	0,01	0,02	3,86				
Play	5,04	3,82	5,05	1,80	1,29	0,01	5,06	1,77	0,01	0,02	3,82				
Rec	5,03	3,86	5,03	1,63	1,28	0,01	5,06	1,87	0,01	0,02	3,86				

Ref. No Mode	IC 7502														
	1	2	3	4	5										
Stop	0,01	0,01	0,01	5,05	5,05										
Play	0,01	0,01	0,01	5,04	5,04										
Rec	0,01	0,01	0,01	5,04	5,04										

Ref.No Mode	IC 7503														
	1	2	3	4	5	6	7	8							
Stop	0,01	0,01	0,01	0,01	3,85	4,46	5,05	5,05							
Play	0,01	0,01	0,01	0,01	3,85	4,46	5,03	5,04							
Rec	0,01	0,01	0,01	0,01	3,85	4,46	5,05	5,03							

Ref.No Mode	IC 7504														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Stop	5,05	0,03	4,45	0,60	0,01	2,22	2,21	5,05	28,08	28,08	28,08	28,08	28,08	28,08	28,08
Play	5,05	0,03	4,45	0,60	0,01	2,22	2,21	5,05	28,08	28,08	28,08	28,08	28,08	28,08	28,08
Rec	5,05	0,03	4,45	0,60	0,01	2,22	2,21	5,05	28,08	28,08	28,08	28,08	28,08	28,08	28,08
Ref.No Mode															
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Stop	28,08	28,08	5,05	28,08	18,60	12,27	24,69	28,08	24,89	24,88	28,08	28,08	0,37	18,75	18,54
Play	28,08	24,09	5,05	24,88	18,59	21,75	28,07	28,07	28,07	24,85	28,06	24,88	24,89	21,69	15,34
Rec	28,08	24,89	5,05	24,87	15,42	18,58	28,04	28,05	28,07	28,05	28,05	28,05	15,37	15,37	15,33
Ref.No Mode															
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Stop	15,33	28,08	21,72	28,08	21,73	18,53	15,34	18,54	18,52	28,08	28,08	24,89	24,89	24,90	28,08
Play	21,73	21,73	21,77	21,78	21,78	18,53	18,84	18,54	18,56	24,74	28,08	24,92	24,94	28,13	24,95
Rec	15,33	24,90	24,87	24,89	15,38	15,33	15,34	18,54	15,33	24,88	28,07	28,07	28,07	28,07	24,08
Ref.No Mode															
	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Stop	18,59	12,27	28,08	24,92	28,08	28,08	28,08	28,08	28,08	28,07	24,96	24,96	24,96	24,96	24,96
Play	15,47	18,63	28,13	28,13	28,14	28,08	28,08	28,13	28,13	28,13	25,01	25,01	25,02	25,02	25,02
Rec	12,25	18,58	28,07	24,91	28,07	28,07	28,07	28,07	28,07	28,07	24,96	24,96	24,97	24,97	24,97
Ref.No Mode															
	61	62	63	64											
Stop	24,92	24,96	25,00	28,28											
Play	25,01	25,04	24,97	28,84											
Rec	24,93	24,98	24,96	28,28											

Ref.No Mode	IC 7505														
	1	2	3	4	5										
Stop	5,05	5,82	0,01	0,01	0,01										
Play	5,04	5,80	0,01	0,01	0,00										
Rec	5,05	5,80	0,01	0,00	0,00										

Ref.No Mode	IC 7506														
	1	2	3	4	5										
Stop	2,20	0,00	0,01	0,00	0,00										
Play	2,20	3,33	0,01	0,01	0,01										
Rec	2,20	0,00	0,01	0,00	0,00										

Ref.No Mode	IC 7509														
	1	2	3	4	5	6	7	8							
Stop	0,58	0,03	0,03	0,00	0,25	0,22	11,09	12,30							
Play	0,59	0,01	0,03	0,00	0,25	0,00	11,09	12,29							
Rec	0,60	0,01	0,03	0,00	0,25	0,00	11,05	12,29							

Ref.No Mode	P 7402														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Stop	0,02	0,01	0,00	3,42	0,05	3,42	3,29	3,25	0,23	0,25	3,29	3,32	3,30	3,32	3,30
Play	0,00	0,00	0,01	3,41	0,00	3,41	3,29	3,25	0,23	0,24	3,28	3,24	3,28	3,31	2,29
Rec	0,00	0,00	0,00	3,42	0,01	3,42	3,29	3,25	0,23	0,25	3,28	3,24	3,28	3,31	3,29
Ref.No Mode															
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Stop	3,42	5,00	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,00	0,01	0,00	3,29	2,49	0,01
Play	3,41	5,00	0,02	0,04	0,04	0,04	0,02	0,04	0,01	0,00	0,01	0,00	3,29	2,49	0,00
Rec	3,42	5,00	0,02	0,02	0,02	0,03	0,01	0,02	0,02	0,01	0,02	0,01	3,29	2,50	0,03
Ref.No Mode															
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Stop	2,49	0,01	0,00	0,00	0,00	1,65	0,00	3,30	2,42	0,03	2,44	3,30	0,00	0,00	0,00
Play	2,49	0,01	0,00	0,00	0,00	1,64	0,00	3,30	2,42	0,03	2,44	3,30	0,00	0,00	0,00
Rec	2,50	0,01	0,00	0,01	0,00	1,64	0,00	3,30	2,42	0,00	2,45	3,30	0,01	0,01	0,01
Ref.No Mode															
	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Stop	0,00	0,99	5,01	0,00	0,05	1,44	5,01	0,00	0,05	0,71	3,70	0,00	3,76	0,70	5,85
Play	0,00	1,13	5,01	0,00	0,04	1,44	5,01	0,00	0,02	0,98	3,75	0,00	3,75	0,73	5,84
Rec	0,01	1,00	5,01	0,01	0,00	1,44	5,01	0,01	0,01	0,93	3,75	0,01	3,75	0,89	5,84
Ref.No Mode															
	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Stop	0,00	5,85	0,71	5,85	0,00	0,02	0,00	3,31	0,00	3,31	0,00	3,31	0,00	3,31	0,00
Play	0,00	5,84	0,77	5,84	0,00	0,02	0,00	3,31	0,00	3,31	0,00	3,31	0,00	3,31	0,00
Rec	0,00	5,84	0,82	5,84	0,00	0,03	0,00	3,31	0,01	3,31	0,00	3,31	0,00	3,31	0,00
Ref.No Mode															
	76	77	78	79	80	81	82	83	84	85	86	87	88		
Stop	1,51	0,00	0,24	0,00	1,51	0,00	1,50	1,35	1,50	0,00	1,50	2,12	1,50		
Play	1,50	0,00	0,24	0,00	1,50	0,00	1,49	1,55	1,49	0,00	1,49	2,12	1,49		
Rec	1,50	0,00	0,25	0,00	1,50	0,00	1,48	1,55	1,48	0,00	1,48	2,13	1,48		

Ref.No Mode	P 7412														
	1	2	3	4	5	6	7	8	9	10	11	12			
Stop	0,01	2,18	2,14	0,00	2,59	0,62	0,00	0,33	0,00	5,79	0,00	5,79			
Play	0,03	2,18	2,15	0,00	0,91	0,62	0,00	0,49	0,00	5,79	0,00	5,79			
Rec	0,03	2,18	2,15	0,00	1,52	0,62	0,00	0,47	0,00	5,79	0,00	5,79			

Ref.No Mode	P 7413														
	1	2	3	4	5	6	7	8	9	10	11				
Stop	4,52	3,86	2,56	3,29	3,29	0,05	1,86	3,31	0,03	11,71	0,03				
Play	4,46	3,84	2,59	3,29	3,30	0,04	1,86	3,31	0,04	11,71	0,04				
Rec	4,49	3,86	2,47	3,28	3,30	0,04	1,85	3,31	0,03	11,69	0,04				

Q 3916			Q 3917			Q 3918			Q 3919			QR 3910		
E	B	C	E	B	C	E	B	C	E	B	C	E	B	C
4,66	0,06	0,04	0,03	0,06	4,66	4,66	5,02		4,66	5,02	4,66	0	0,06	5,08
4,68	0,06	0,05	0,03	0,05	4,68	4,68	5,03		4,68	5,03	4,68	0	0,06	5,09
4,64	0,06	0,03	0,02	0,06	4,64	4,64	5,01		4,64	5,01	4,64	0	0,06	5,07

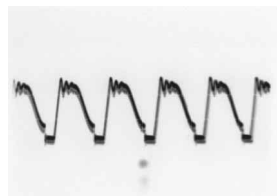
Q 4007			Q 4008			Q 4009			Q 4060			QR 4060		
E	B	C	E	B	C	E	B	C	E	B	C	E	B	C
0	0,02	0	0,02	0	0	0,02	0	0	3,30	3,31	5,3	5,81	5,30	0
0	0,01	0	0,02	0	0	0,02	0	0	3,30	3,31	5,3	5,80	5,29	0
0	0,01	0	0,02	0	0	0,02	0	0	3,29	3,31	5,3	5,80	5,29	0

QR 7401			QR 7410			QR 7411			QR 7412			QR 7415		
E	B	C	E	B	C	E	B	C	E	B	C	E	B	C
0	0,03	2,27	37,33	0,03	37,30	0	2,27	0,03	11,07	11,05	0,05	0	0,03	11,05
0	0,03	2,27	37,33	0,03	37,28	0	2,27	0,03	10,95	0,02	10,93	0	5,01	0,05
0	0,03	2,27	37,19	0,03	37,16	0	2,28	0,02	10,98	11,01	0,01	0	0,03	10,99

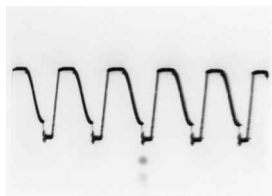
QR 7461			Q 7501			Q 7502			Q 7503			Q 7504		
E	B	C	E	B	C	E	B	C	E	B	C	E	B	C
0	3,33	0,04	2,68	2,04	0	1,63	5,02	2,01	2,59	2,01	0	2,11	1,62	5,02
0	3,33	0,03	2,79	2,38	0	1,99	1,63	5,03	2,96	2,25	0	2,32	1,62	5,04
0	3,33	0,04	2,53	2,01	0	1,62	2,21	5,01	2,83	1,93	0	1,98	1,62	5,01

Q 7507			Q 7508			Q 7590			QR 7503			QR 7505		
E	B	C	E	B	C	E	B	C	E	B	C	E	B	C
0	0,58	0,04	0	0,03	4,65	0,16	0,58	12,31	0	0,01	3,43	0	0,03	0,12
0	0,58	0,05	0	0,02	4,68	5,31	5,92	12,29	0	0,02	3,43	0	0,03	0,12
0	0,58	0,05	0	0,03	4,65	5,31	5,93	12,29	0	0,01	3,43	0	0,03	0,12

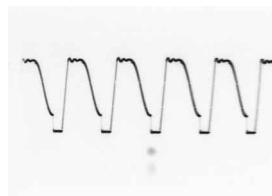
QR 7507			QR 7508											
E	B	C	E	B	C	E	B	C	E	B	C	E	B	C
0	2,37	0,02	5,04	0,06	5,03									
0	2,37	0,02	5,05	0,06	5,04									
0	2,37	0,02	5,04	0,05	5,04									



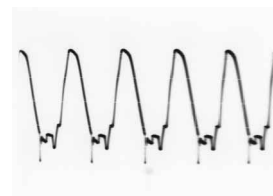
T1150-3 STOP
30Vp-p (5 μ sec.div)



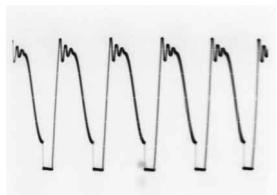
T1150-7 STOP
130Vp-p (5 μ sec.div)



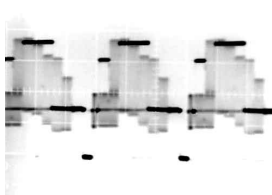
T1150-15,16,17,18
STOP
30Vp-p (5 μ sec.div)



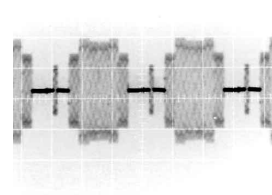
IC1150-1 STOP
10.0Vp-p (5 μ sec.div)



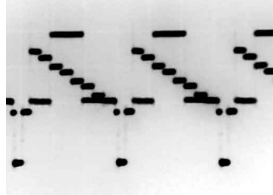
IC1150-9 STOP
580Vp-p (5 μ sec.div)



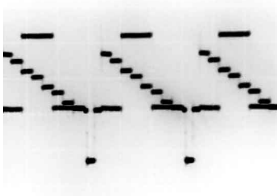
P7402-83 REC/PLAY
1.0Vp-p (20 μ sec.div)



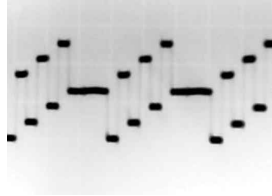
P7402-51 REC/PLAY
0.8Vp-p (20 μ sec.div)



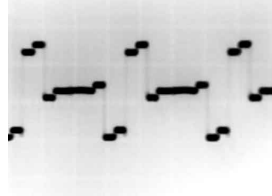
P7402-47 REC/PLAY
1.0Vp-p (20 μ sec.div)



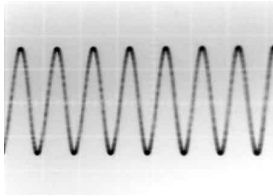
P7402-59 REC/PLAY
1.0Vp-p (20 μ sec.div)



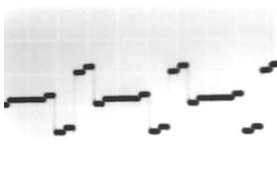
P7402-63 REC/PLAY
0.6Vp-p (20 μ sec.div)



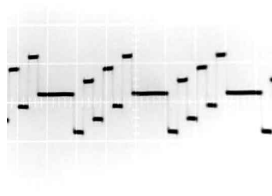
P7402-55 REC/PLAY
0.6Vp-p (20 μ sec.div)



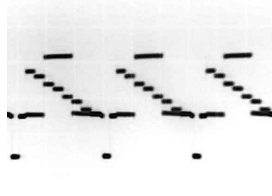
P7402-29,31 REC/PLAY
0.7Vp-p (1m sec.div)



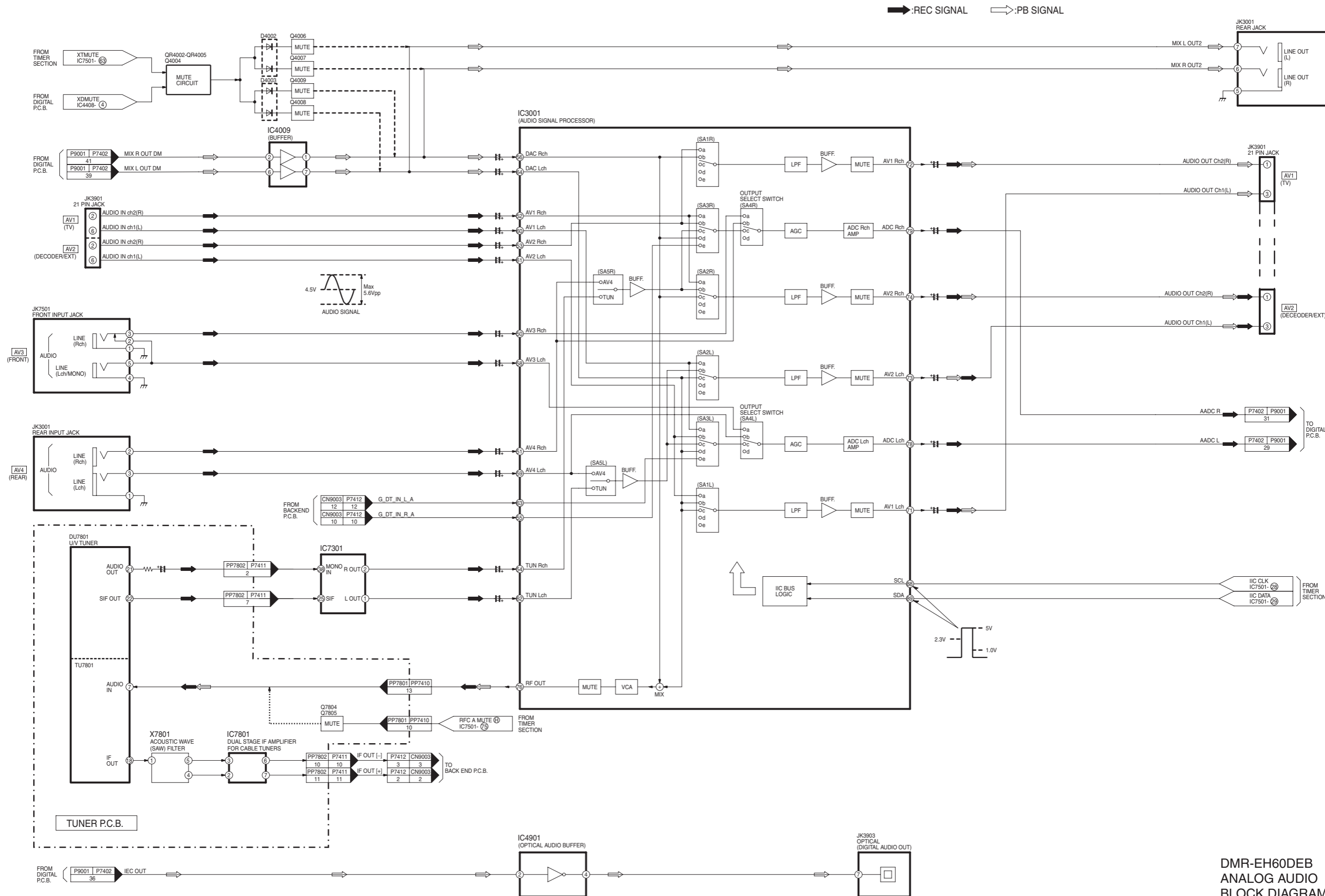
JK3903-2 REC/PLAY
1.0Vp-p (20 μ sec.div)



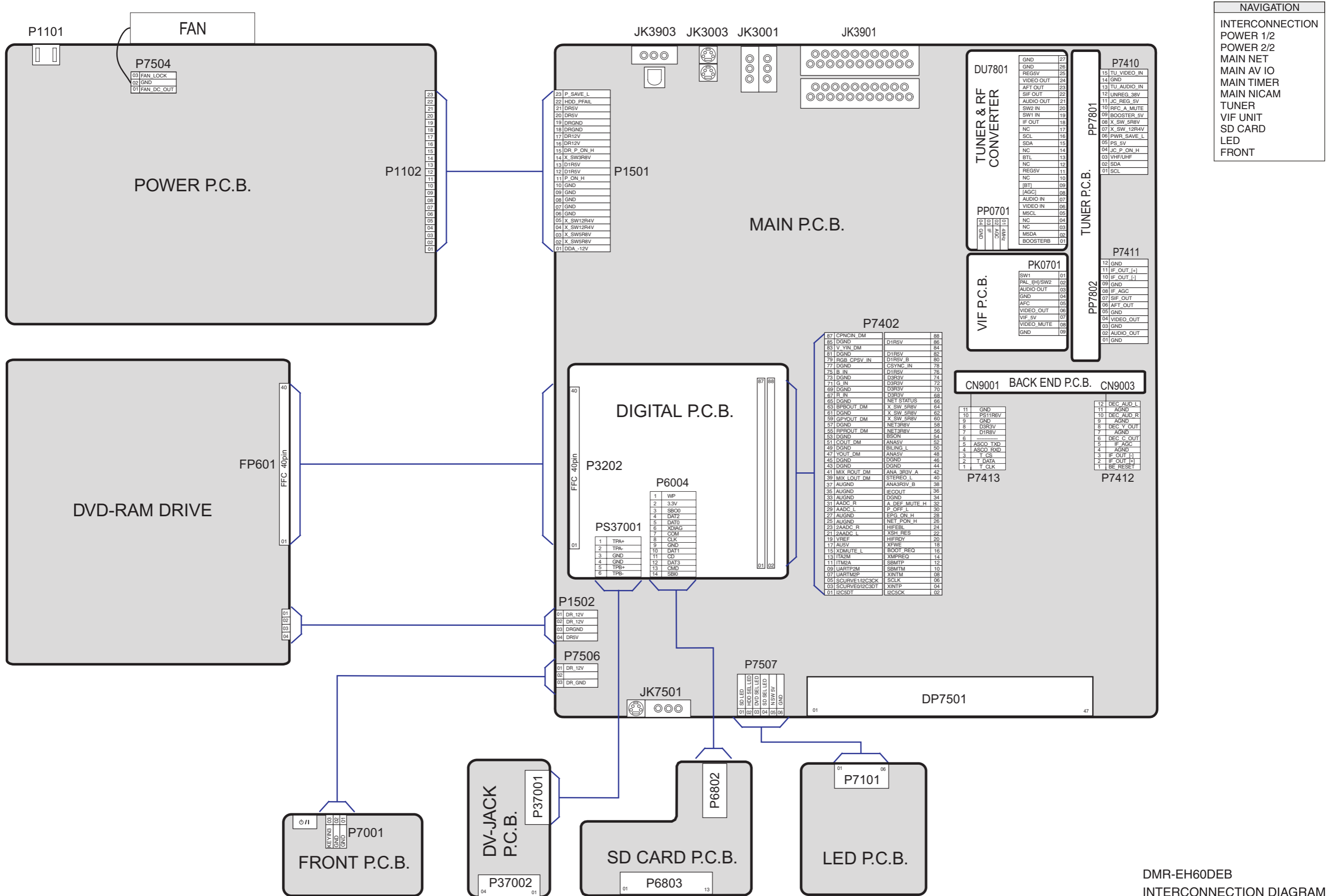
JK3903-3 REC/PLAY
1.0Vp-p (20 μ sec.div)

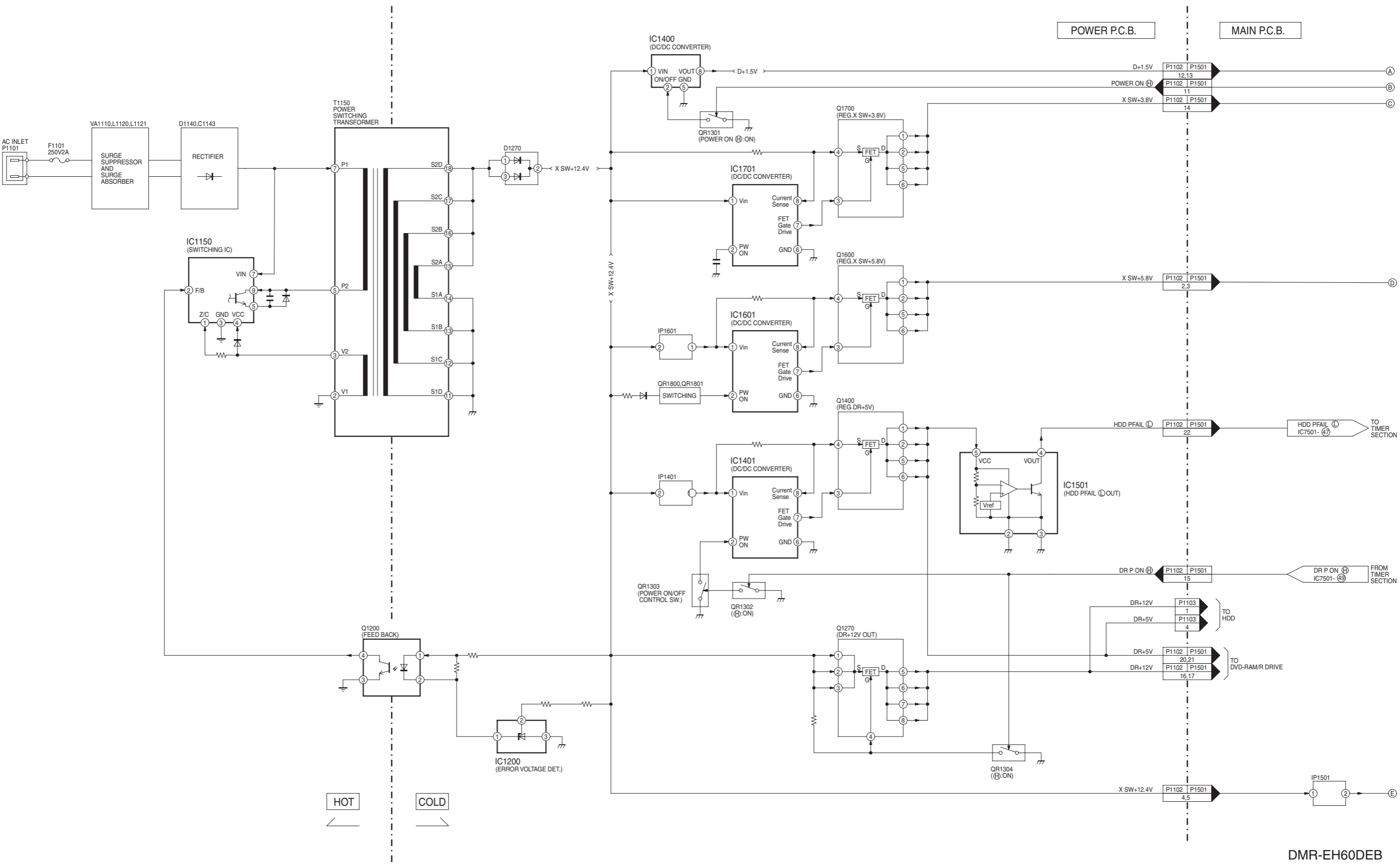


JK3903-4 REC/PLAY
2.0Vp-p (20 μ sec.div)

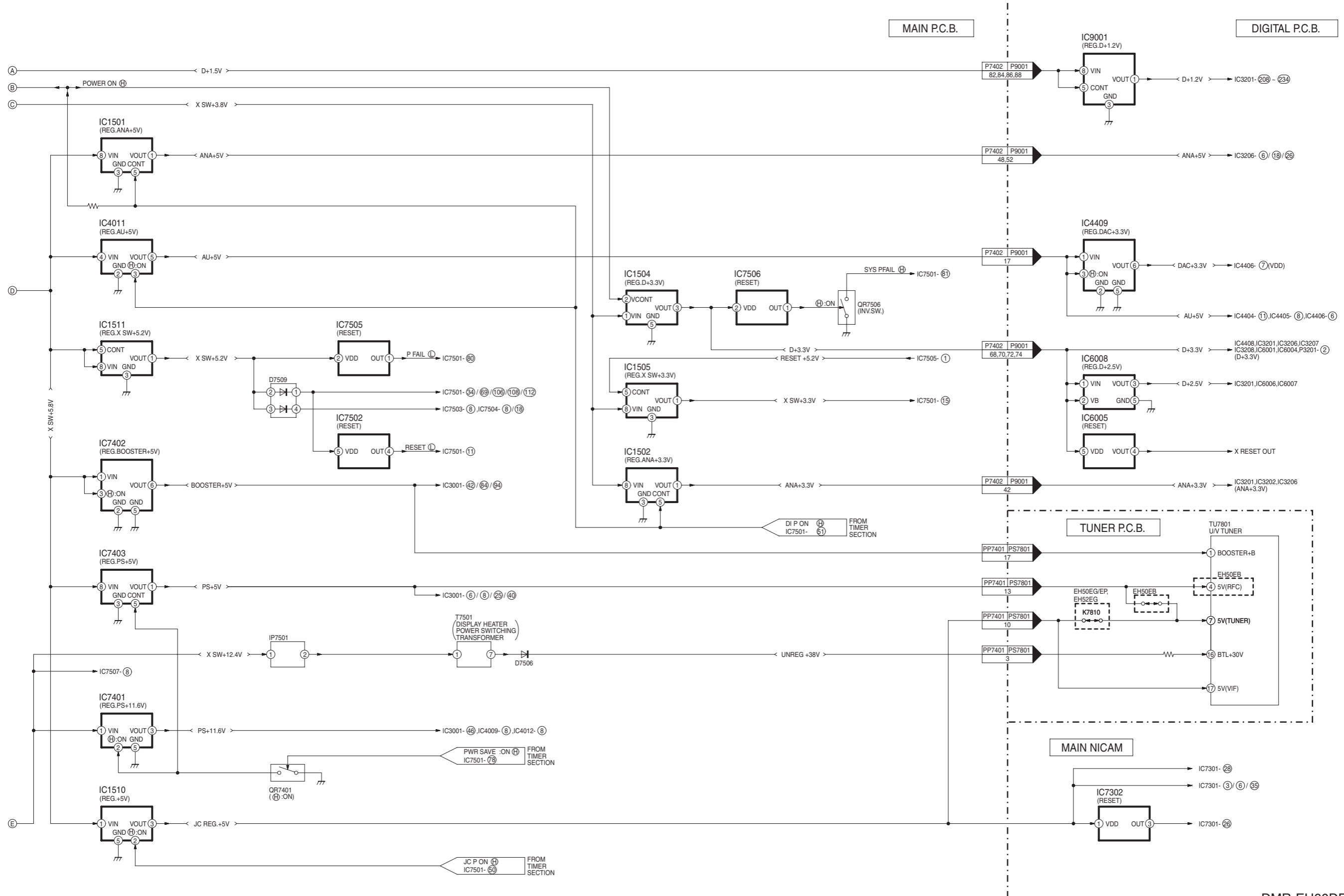


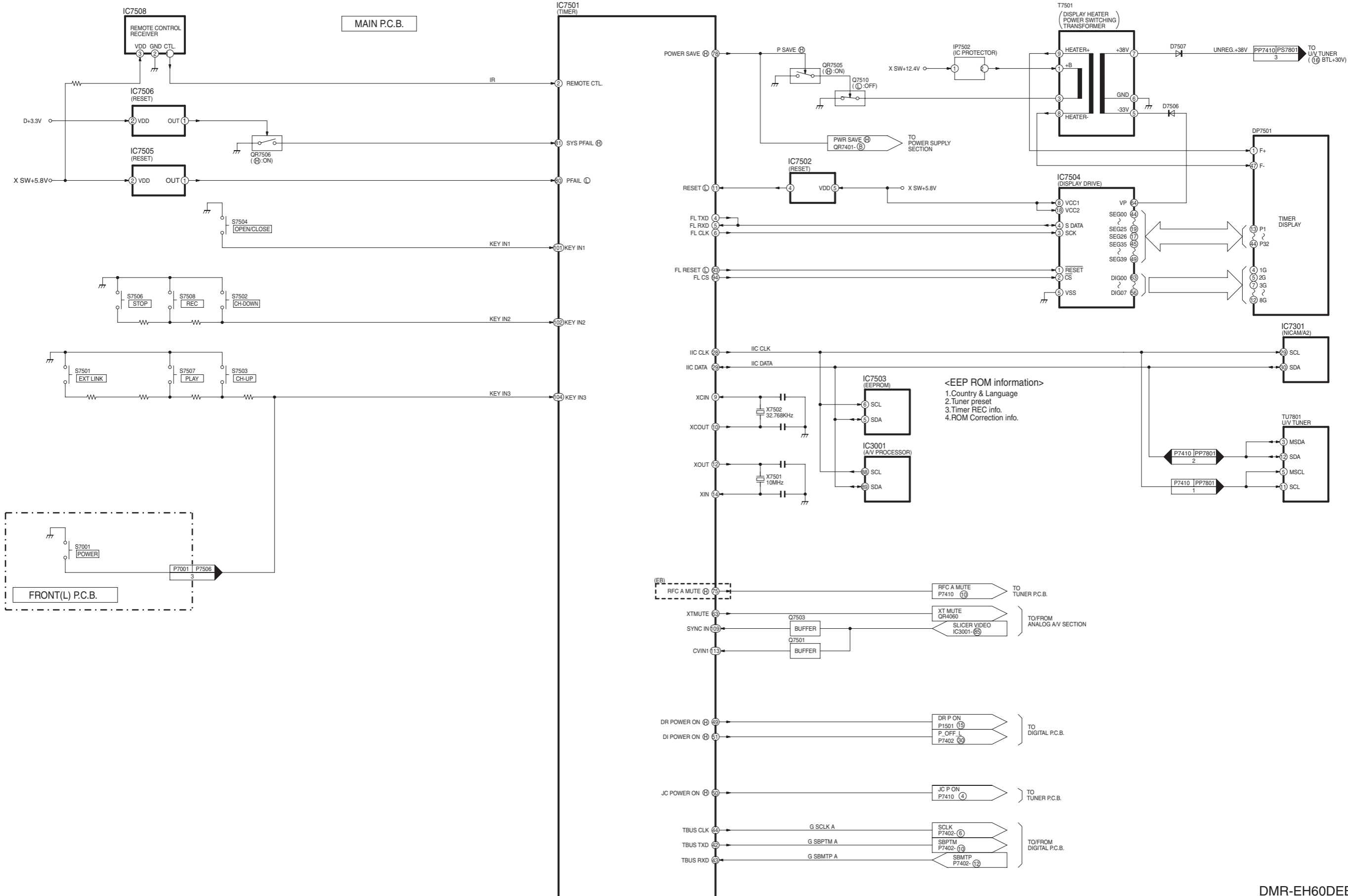
DMR-EH60DEB
 ANALOG AUDIO
 BLOCK DIAGRAM

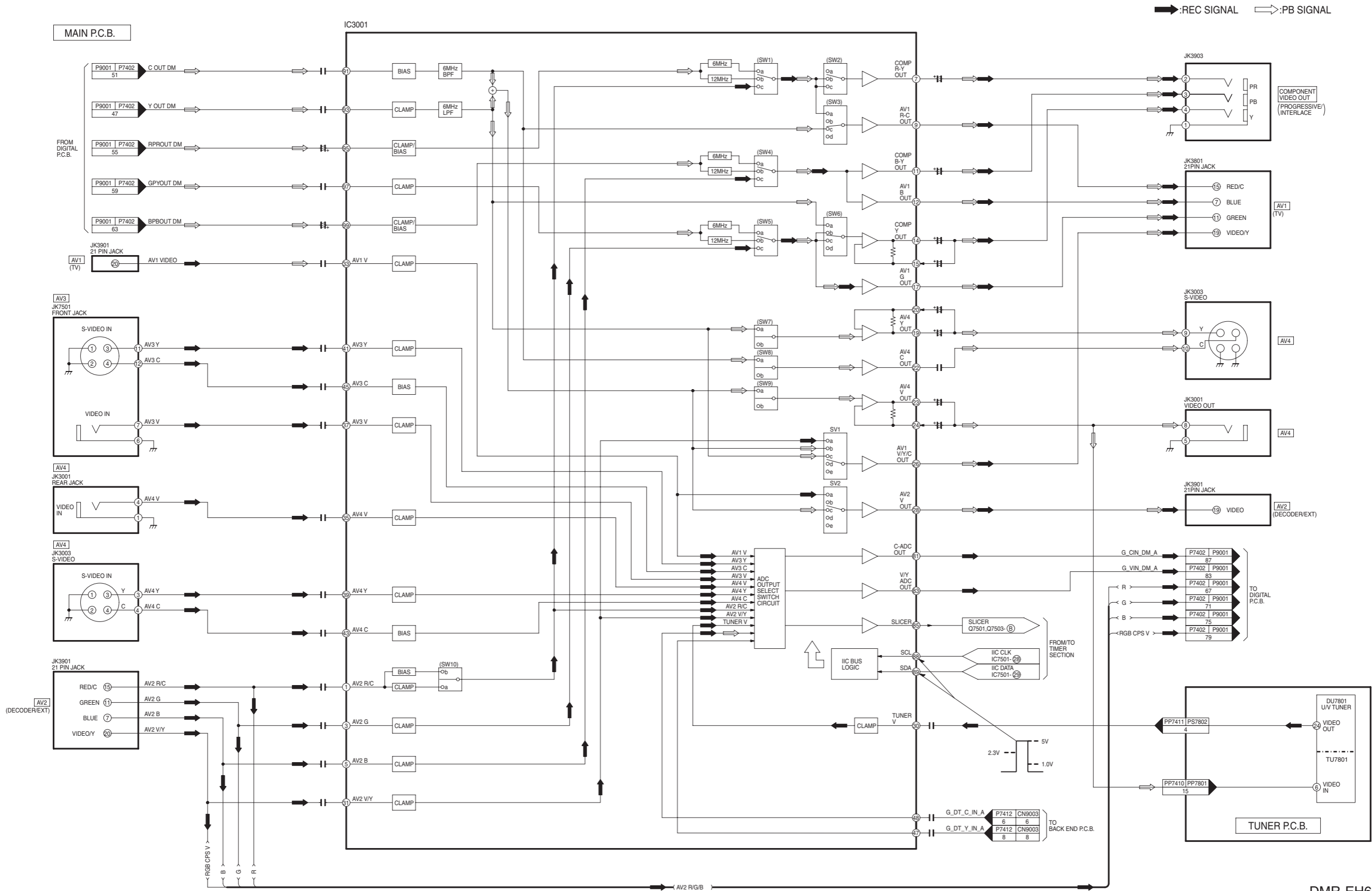




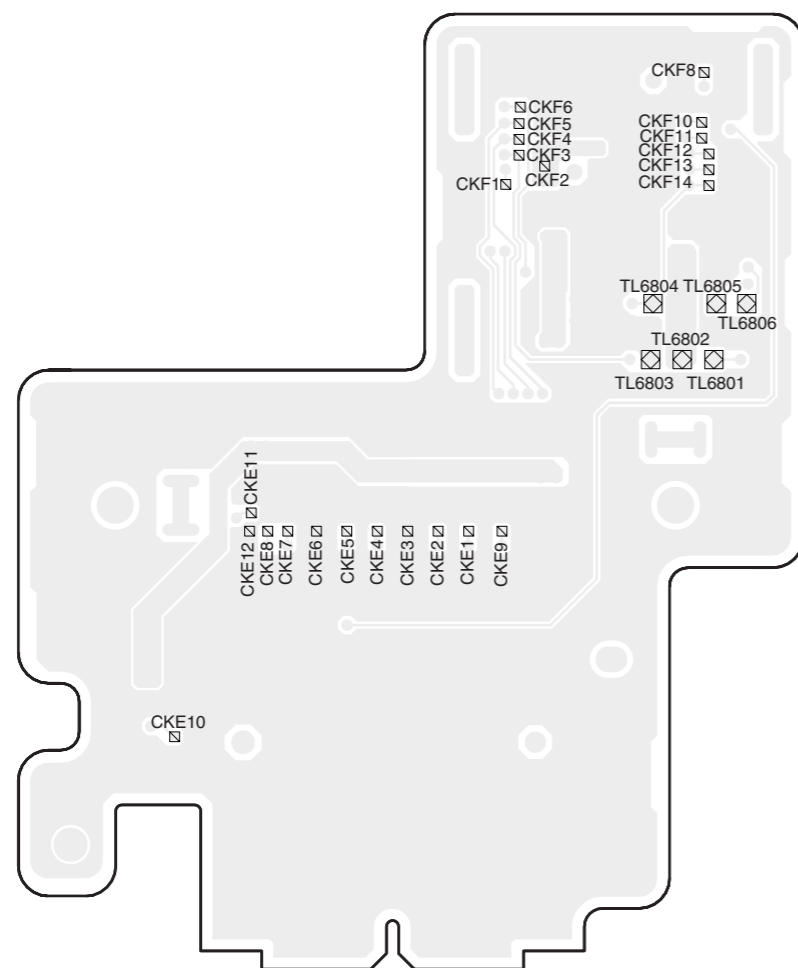
DMR-EH60DEB
POWER 1/2
BLOCK DIAGRAM



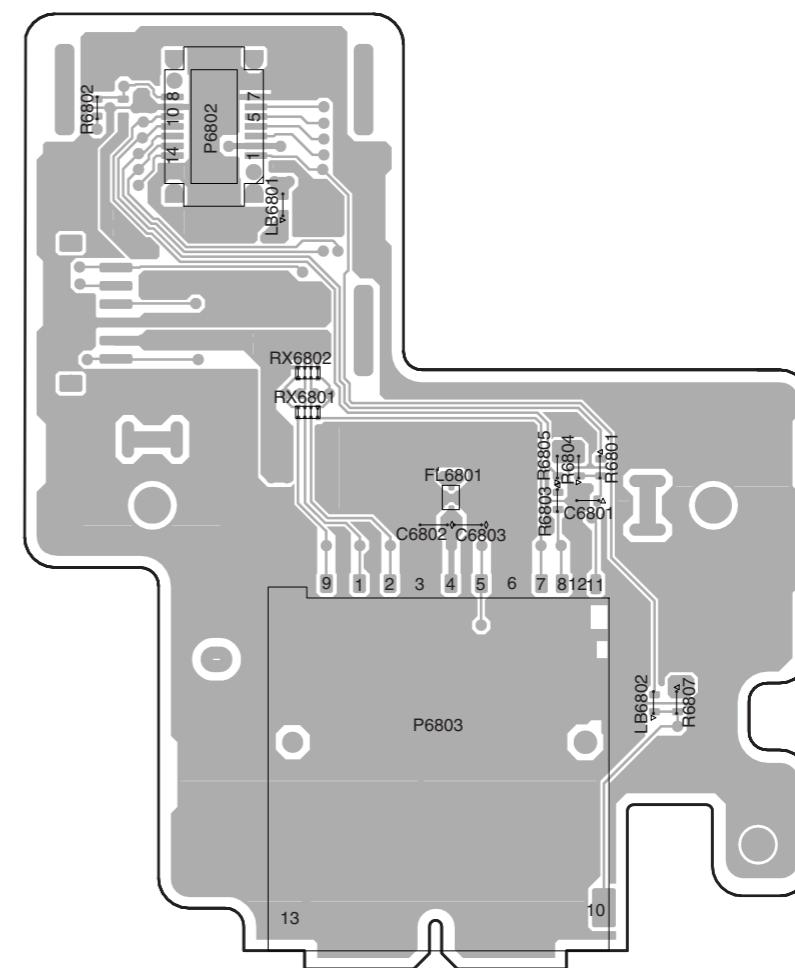




A



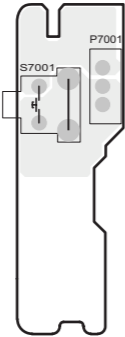
COMPONENT SIDE



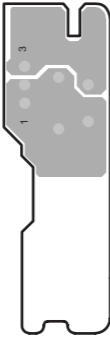
SOLDER SIDE

G
F
E
D
C
B
A

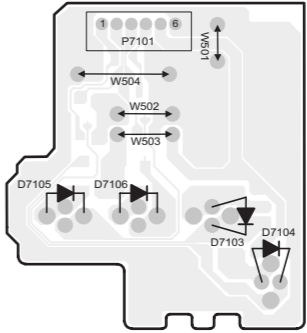
FRONT JACK COMPONENT SIDE
REPD0020A



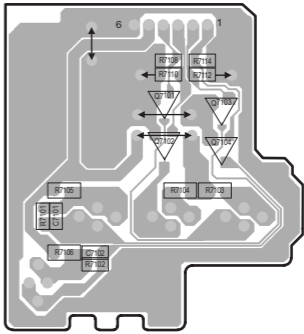
FRONT JACK SOLDER SIDE



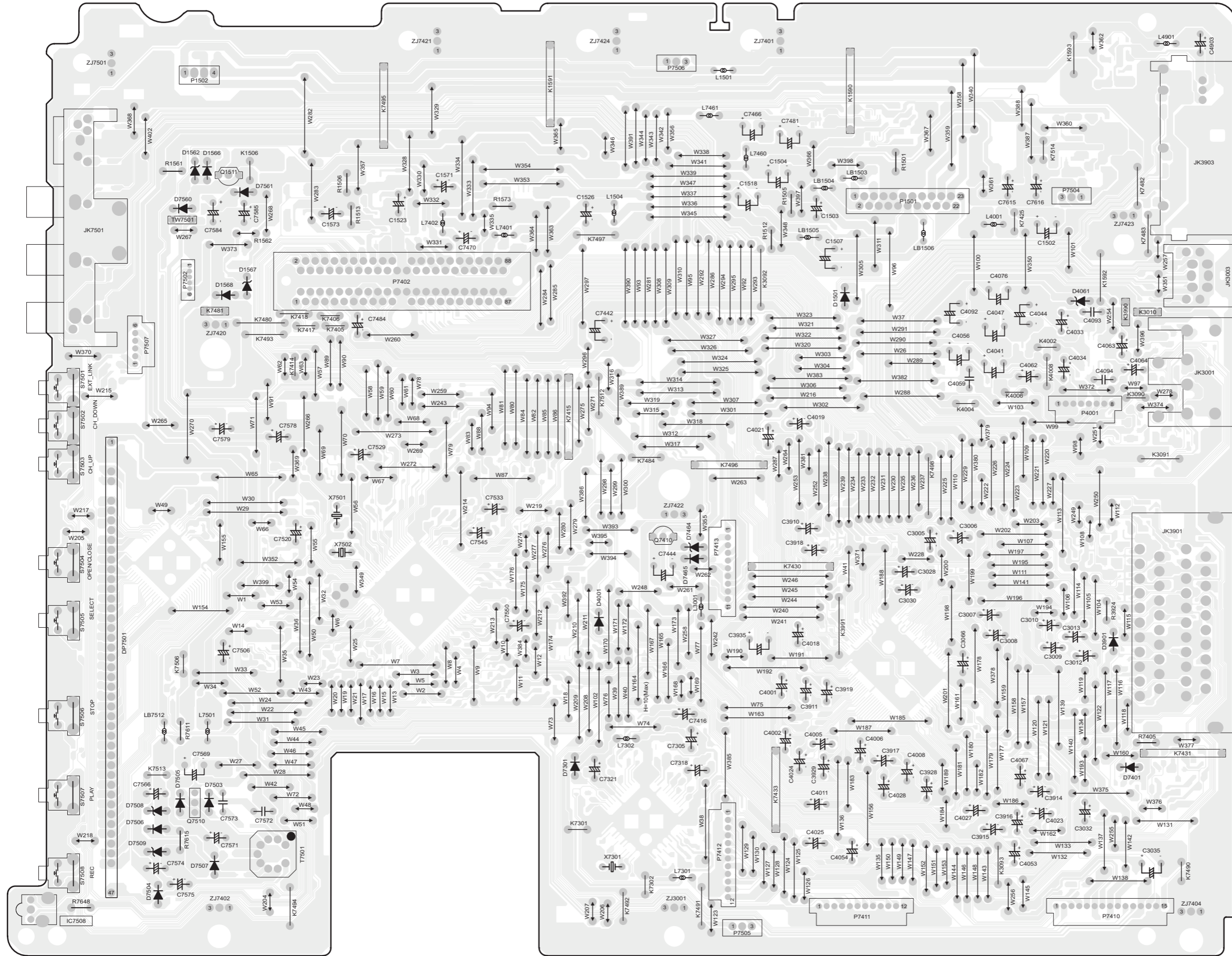
LED COMPONENT SIDE
REPD0021A



LED SOLDER SIDE



G
F
E
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C
B
A



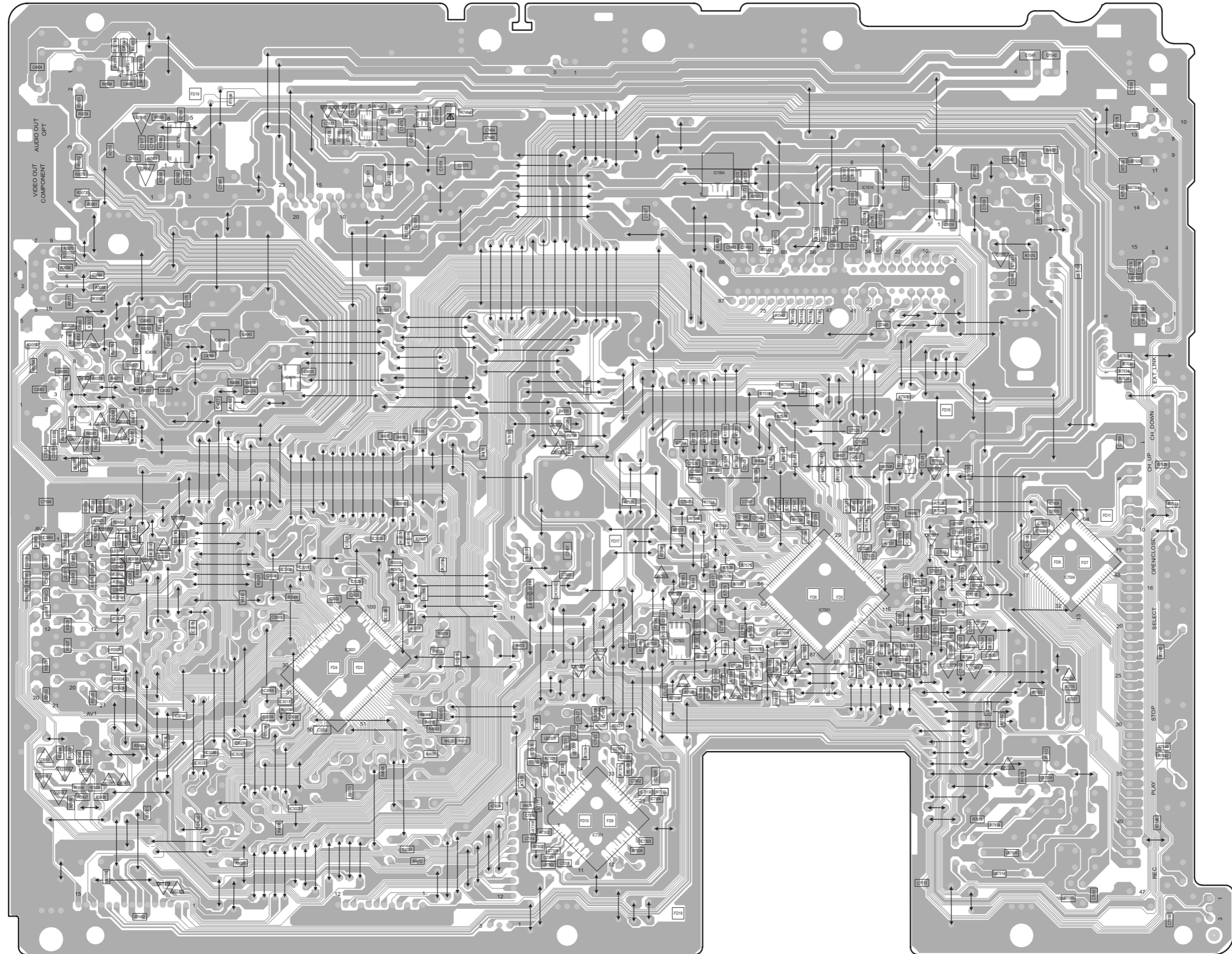
MAIN P.C.B.	
IC7508	A1
Q1511	F2
Q7410	D6
Q7510	B2
JK3001	E10
JK3003	F10
JK3901	D9
JK3903	F10
JK7501	F1
P1501	F7
P1502	G2
P4001	E9
P7402	F3
P7410	A9
P7411	A7
P7412	A6
P7413	D6
P7502	F2
P7504	F9
P7505	A6
P7506	G6
P7507	E2
DP7501	A1
TW7501	F2
T7501	A3

ADDRESS INFORMATION

DMR-EH60DEB
MAIN P.C.B.
COMPONENT SIDE
REPD0019B

1 2 3 4 5 6 7 8 9 10 11

G
F
E
D
C
B
A



MAIN P.C.B.	
IC3001	C3
IC7301	A5
IC7501	C7
IC7502	D8
IC7503	C6
IC7504	C9
IC7505	C7
Q1560	F8
Q3908	D2
Q3909	D2
Q3910	B1
Q3914	D2
Q3915	D2
Q3916	B1
Q3917	B1
Q4006	E1
Q4007	E1
Q4008	E1
Q4009	E1
Q4060	E5
Q7501	C8
Q7502	C8
Q7503	C8
Q7504	C8
Q7506	C7
Q7507	C5
Q7508	C6
Q7509	C8
Q7590	F2
Q7591	G2
QR3909	D2
QR4012	C5
QR4060	D5
QR7401	C5
QR7410	A2
QR7411	A2
QR7412	B2
QR7415	B2
QR7460	G3
QR7461	G3
QR7501	D8
QR7502	D8
QR7503	C6
QR7504	C7
QR7505	B9
QR7506	C7
QR7506	C7
QR7507	C8
QR7508	C6
IP1501	F4
IP1560	F8
IP7502	C9

ADDRESS INFORMATION

DMR-EH60DEB
MAIN P.C.B.
SOLDER SIDE
REPD0019B

1 2 3 4 5 6 7 8 9 10 11

G

F

E

D

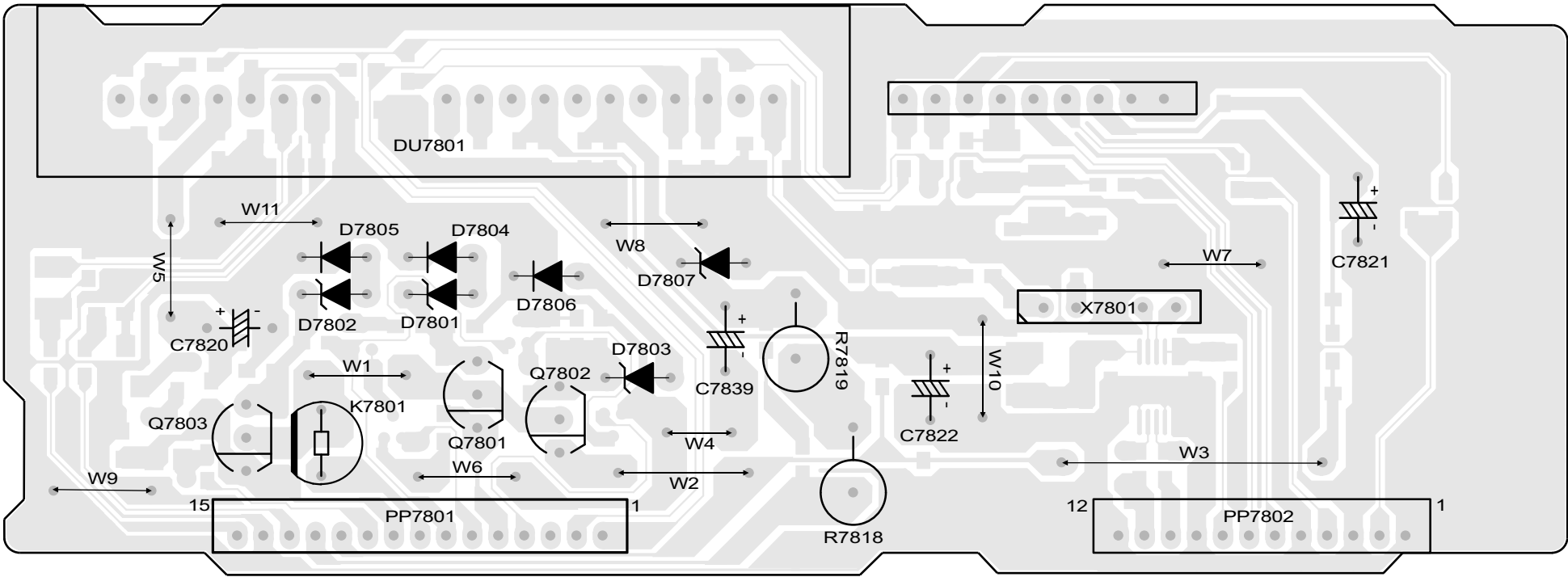
C

B

A

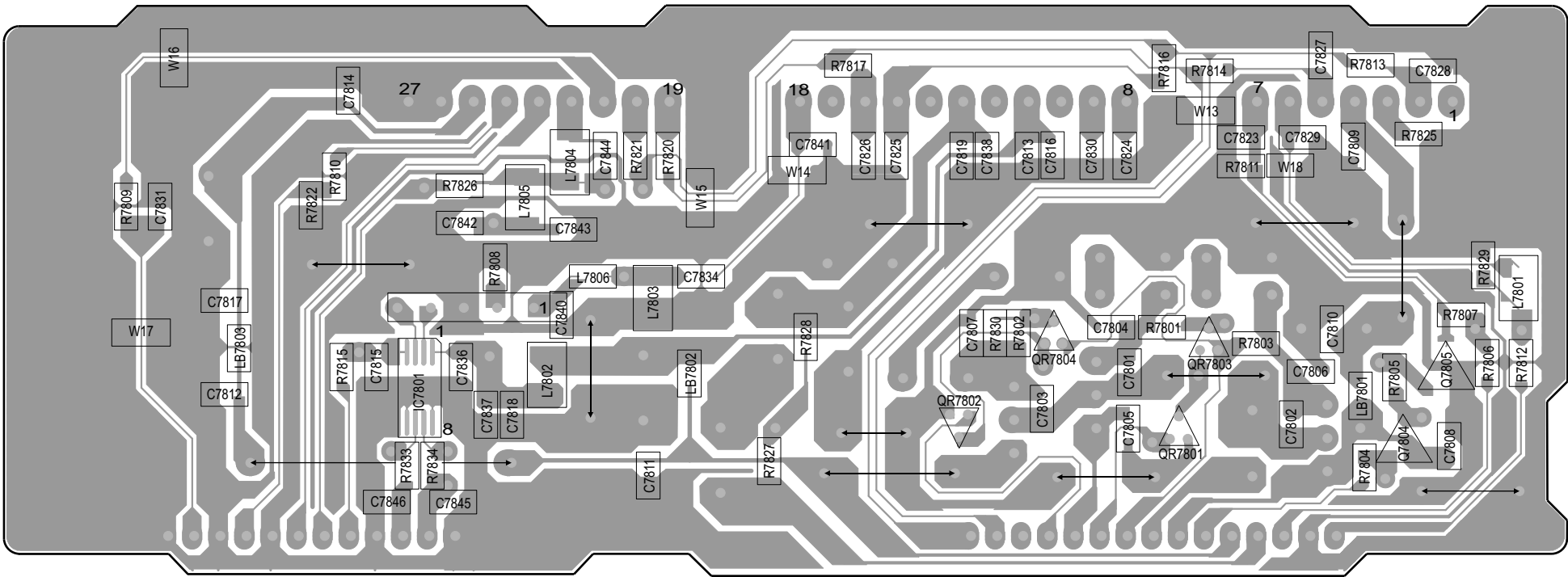
COMPONENT SIDE

TUNER P.C.B.	
Q7801	E5
Q7802	E6
Q7803	E4
P7801	E5
P7802	E9
DU7801	F5
ADDRESS INFORMATION	



SOLDER SIDE

TUNER P.C.B.	
IC7801	B5
Q7804	B10
QR7801	B8
QR7802	B7
QR7803	B9
QR7804	B8
ADDRESS INFORMATION	



G

F

E

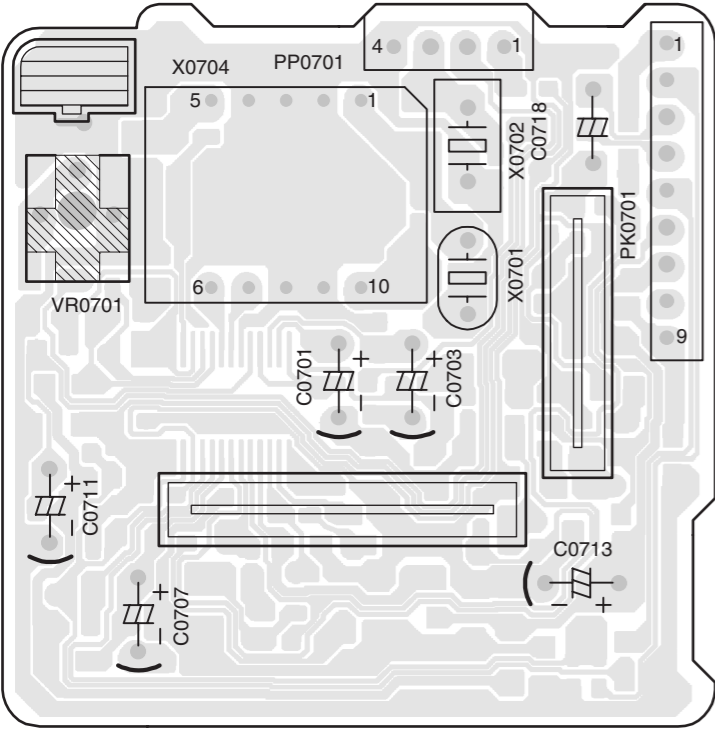
D

C

B

A

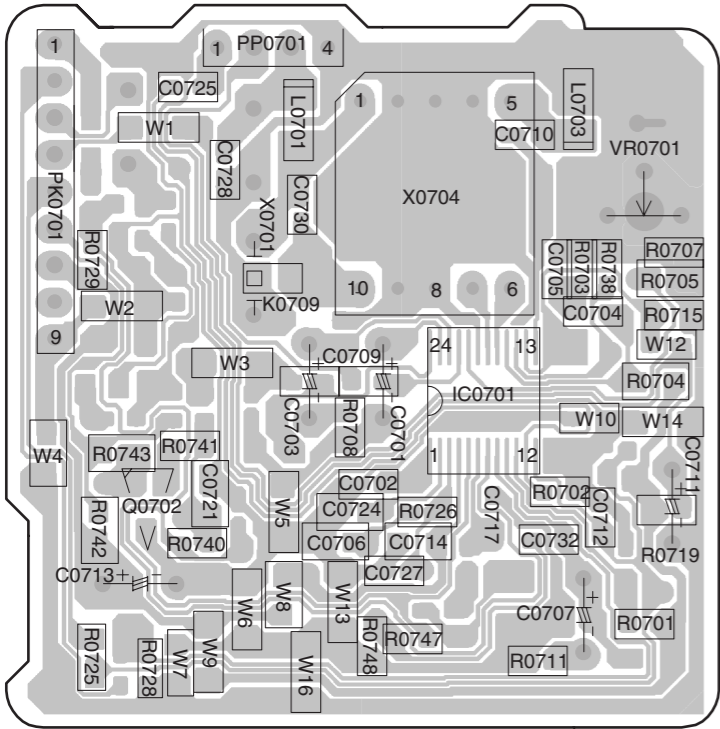
COMPONENT SIDE



VIF P.C.B	
X0704	G2
X0702	G3
X0701	F3
PP0701	G2
PK0701	F3

ADDRESS INFORMATION

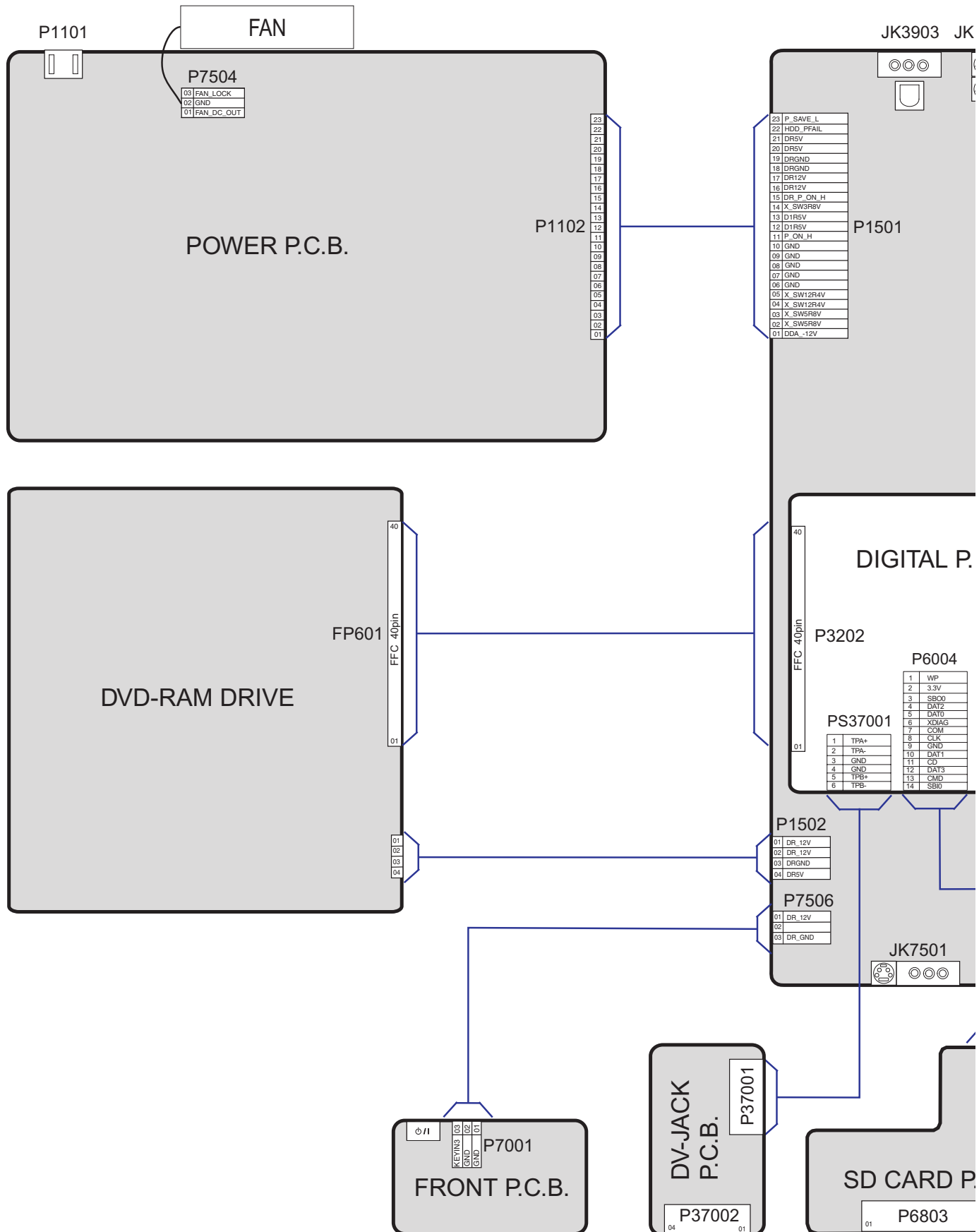
SOLDER SIDE

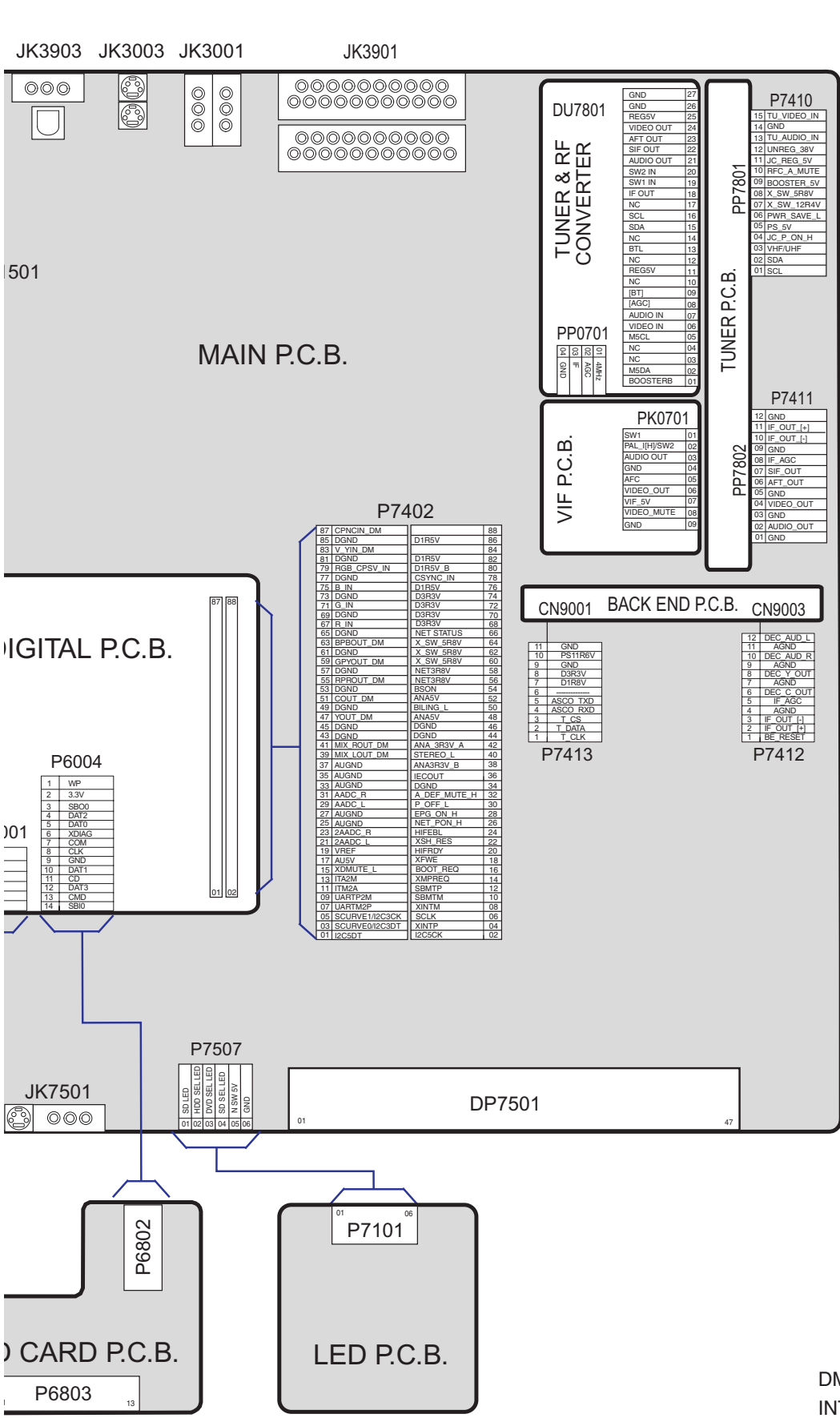


VIF P.C.B	
X0704	C3
X0702	C2
X0701	C2
Q0701	B1
IC0701	B3
PP0701	D2
PK0701	C1

ADDRESS INFORMATION

18 INTERCONNECTION



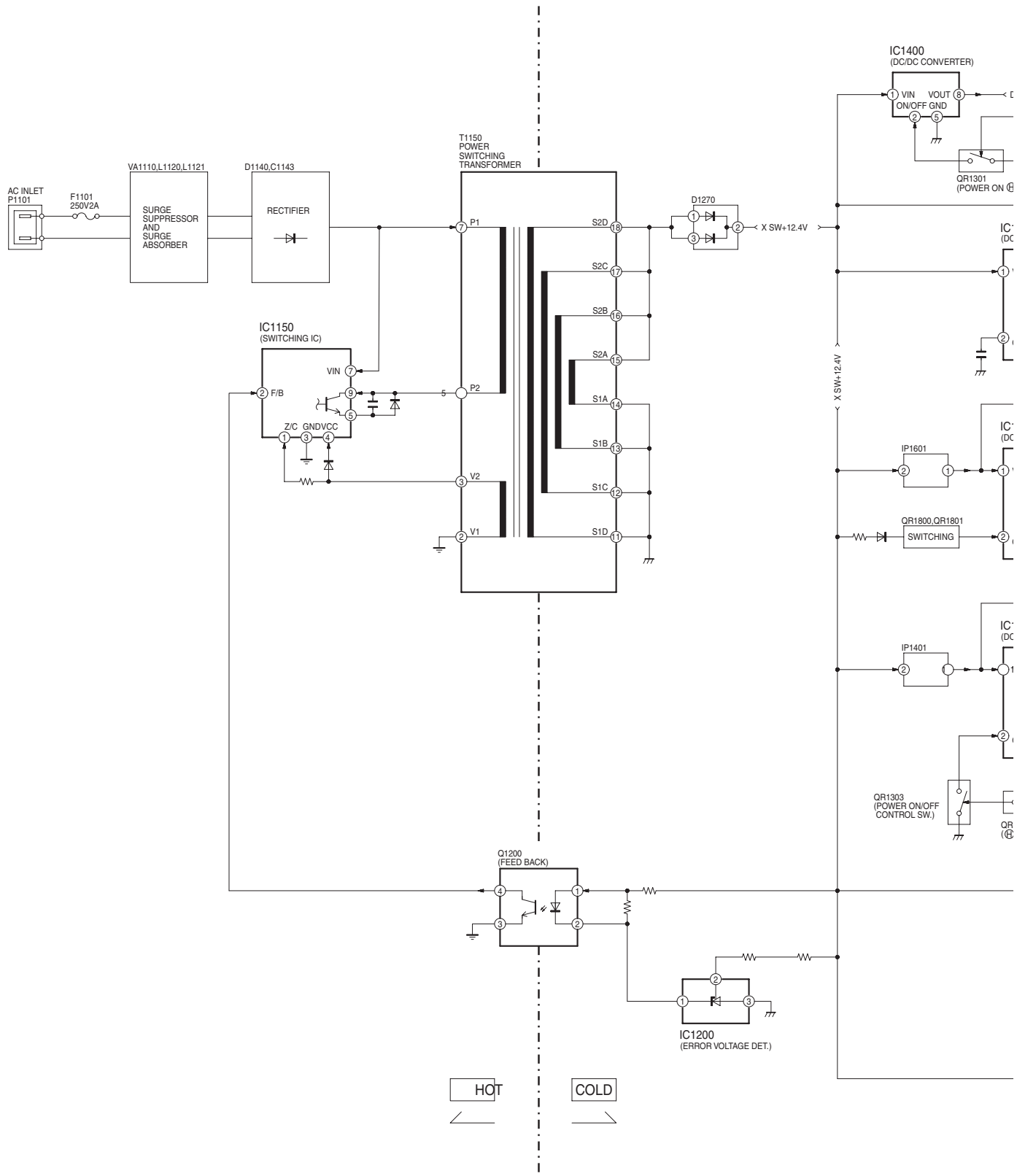


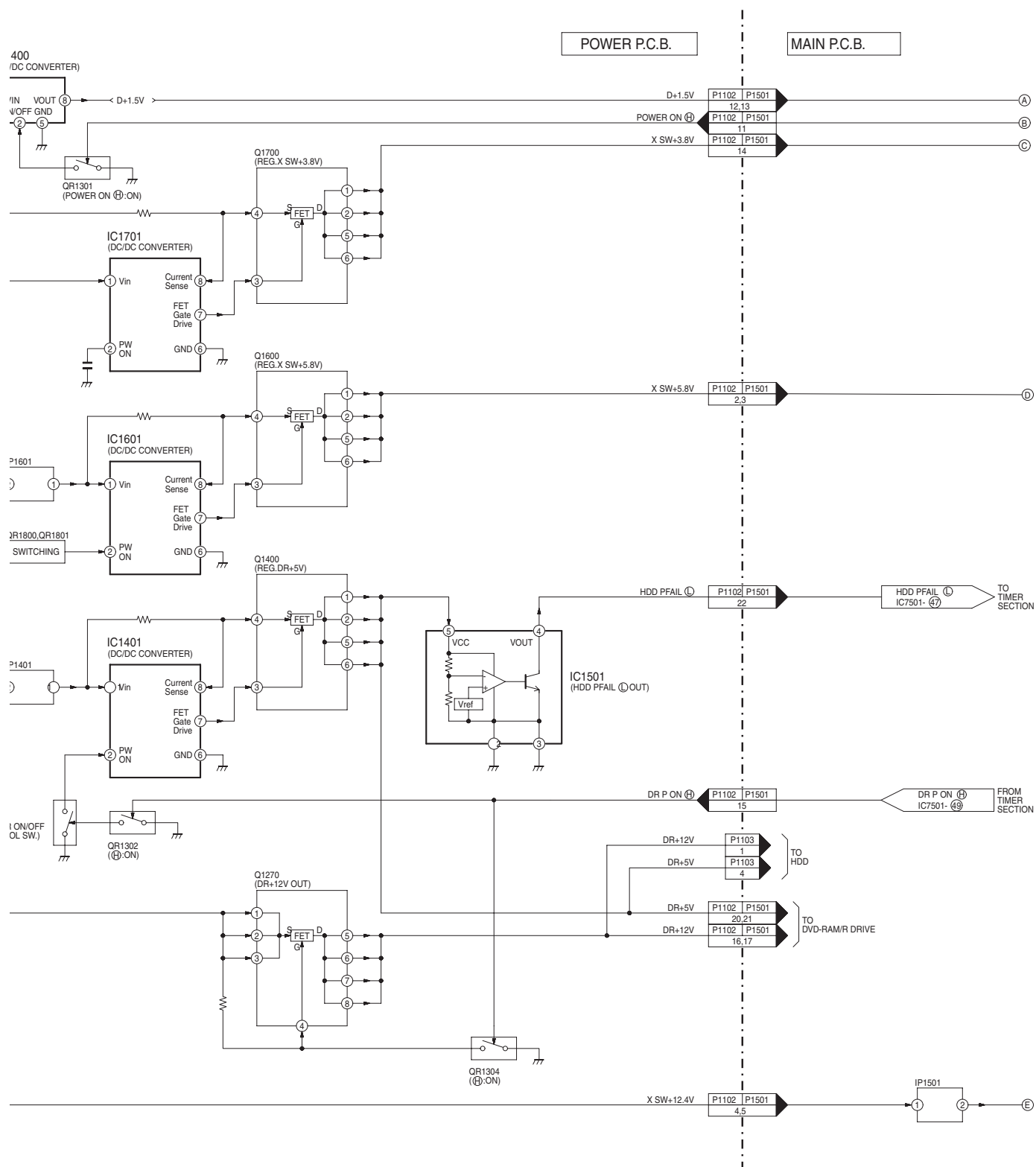
NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT

DMR-EH60DEB
INTERCONNECTION DIAGRAM

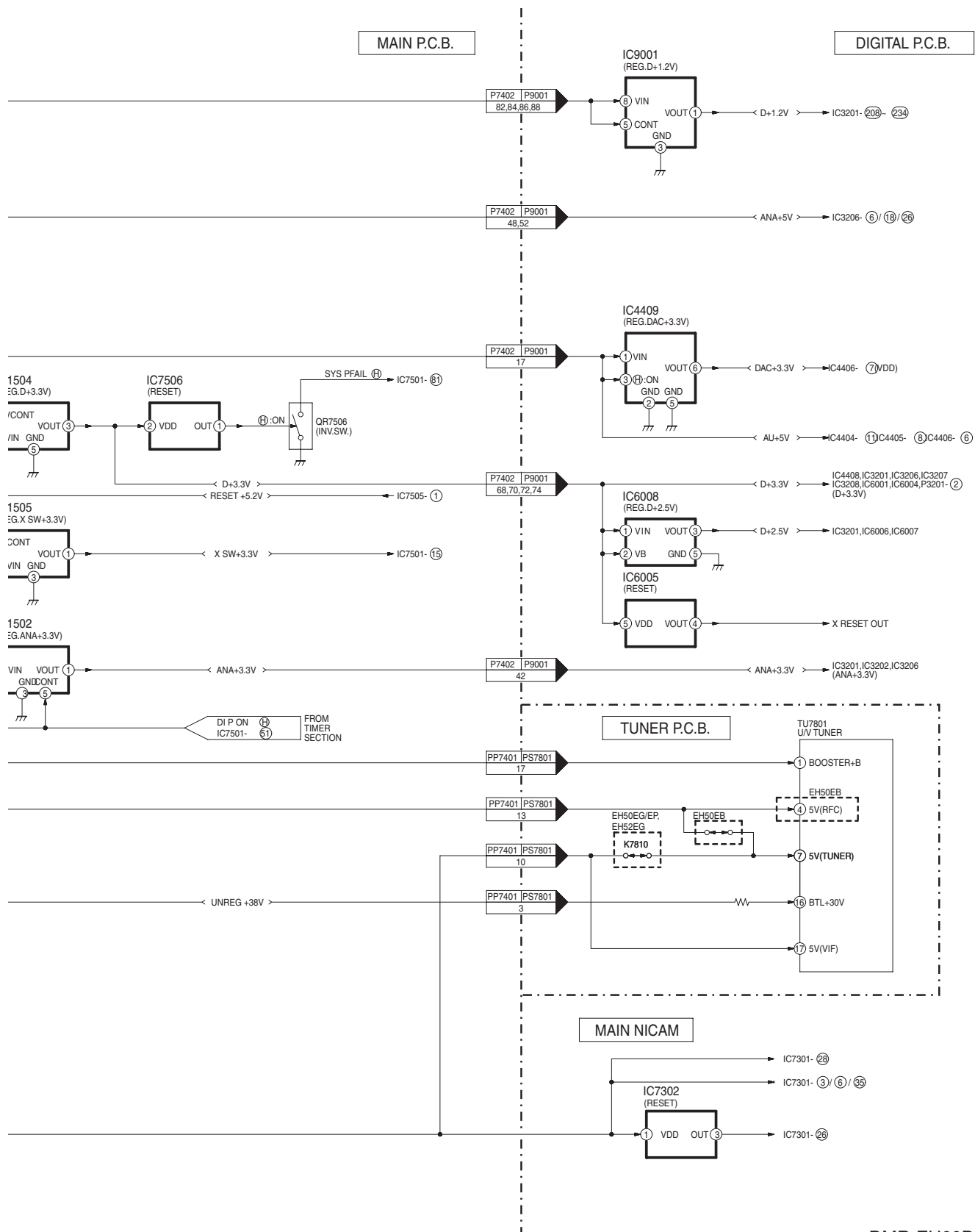
19 BLOCK DIAGRAM

19.1. POWER BLOCK DIAGRAM

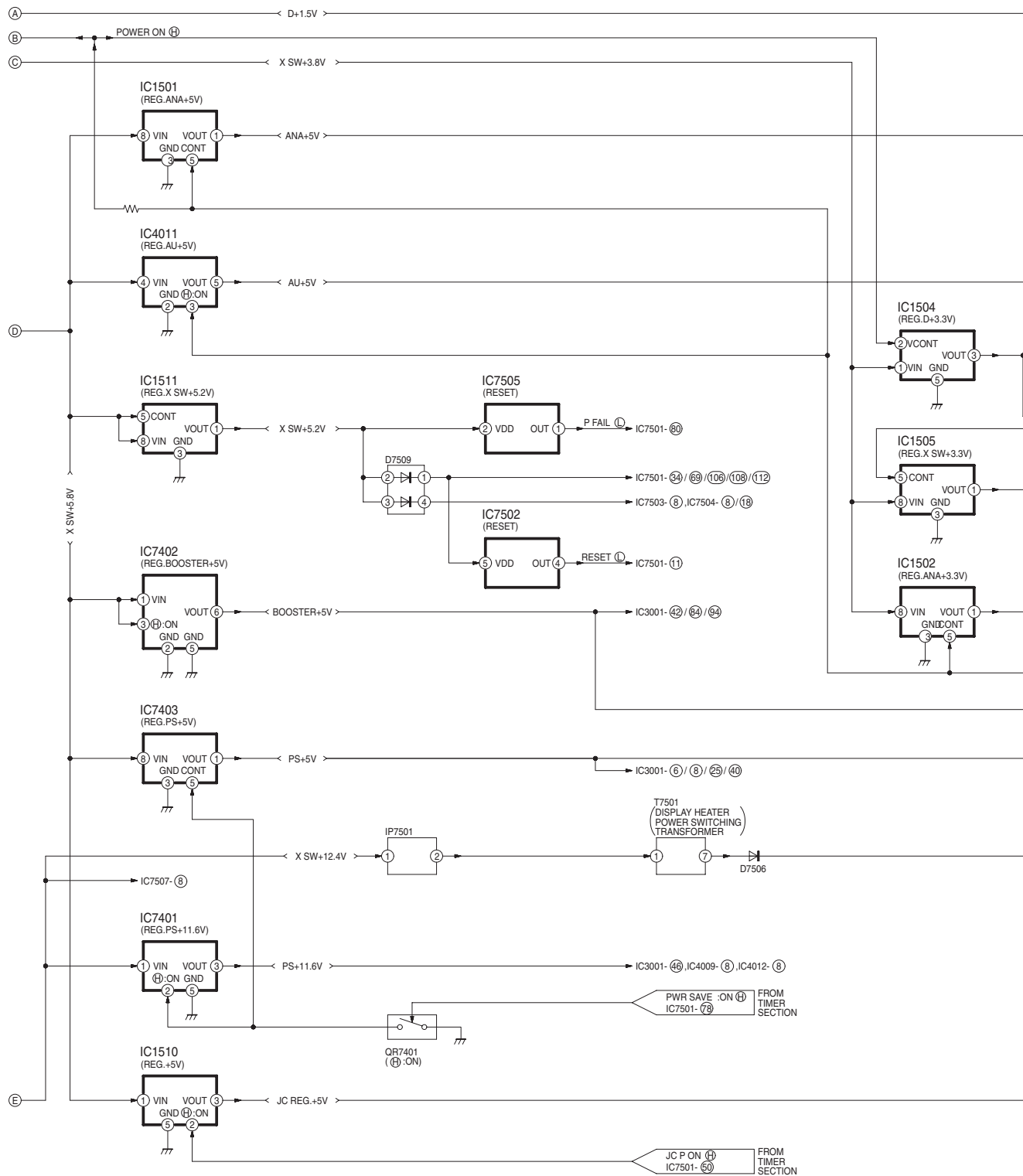




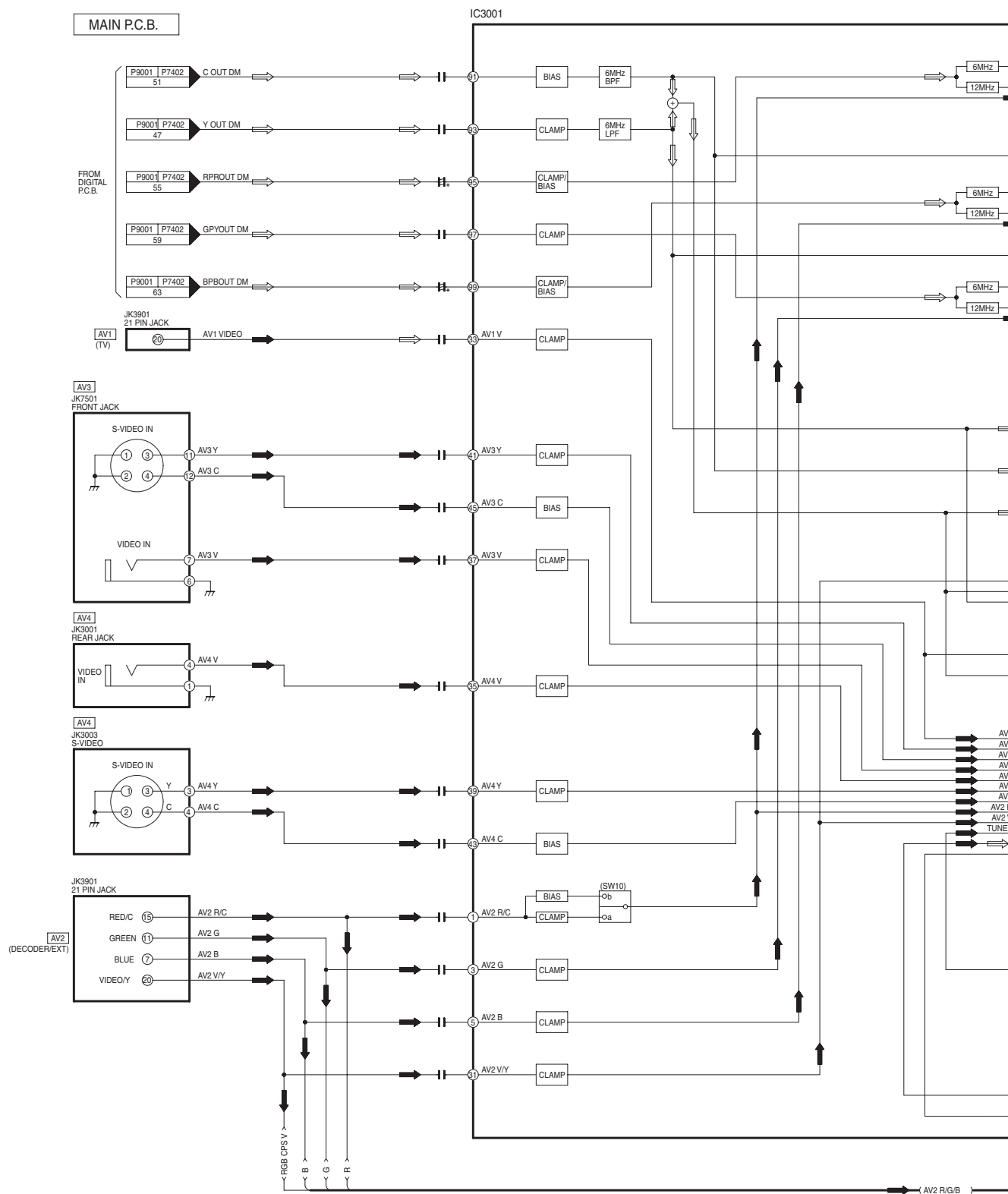
DMR-EH60DEB
POWER 1/2
BLOCK DIAGRAM

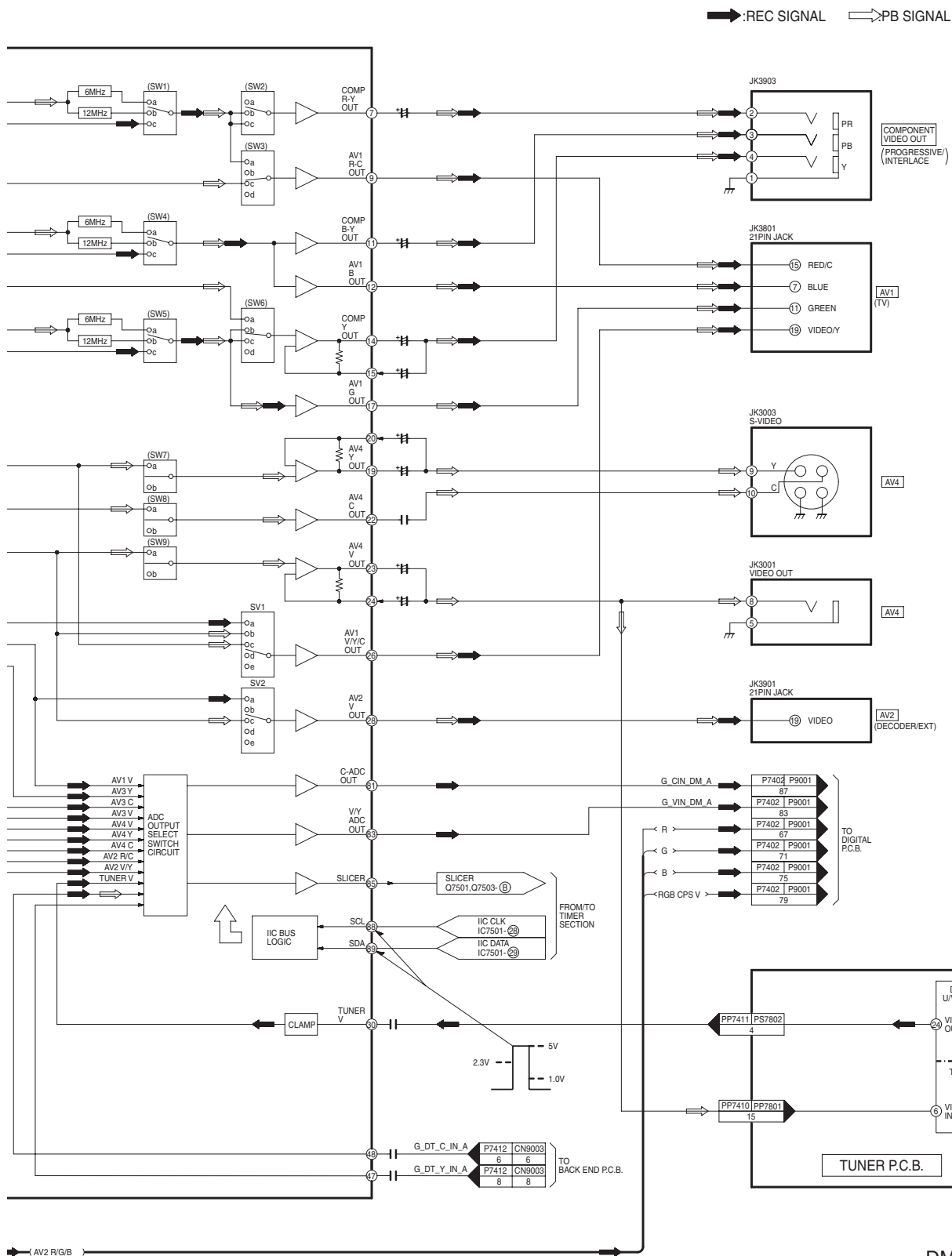


DMR-EH60DEB
POWER 2/2
BLOCK DIAGRAM



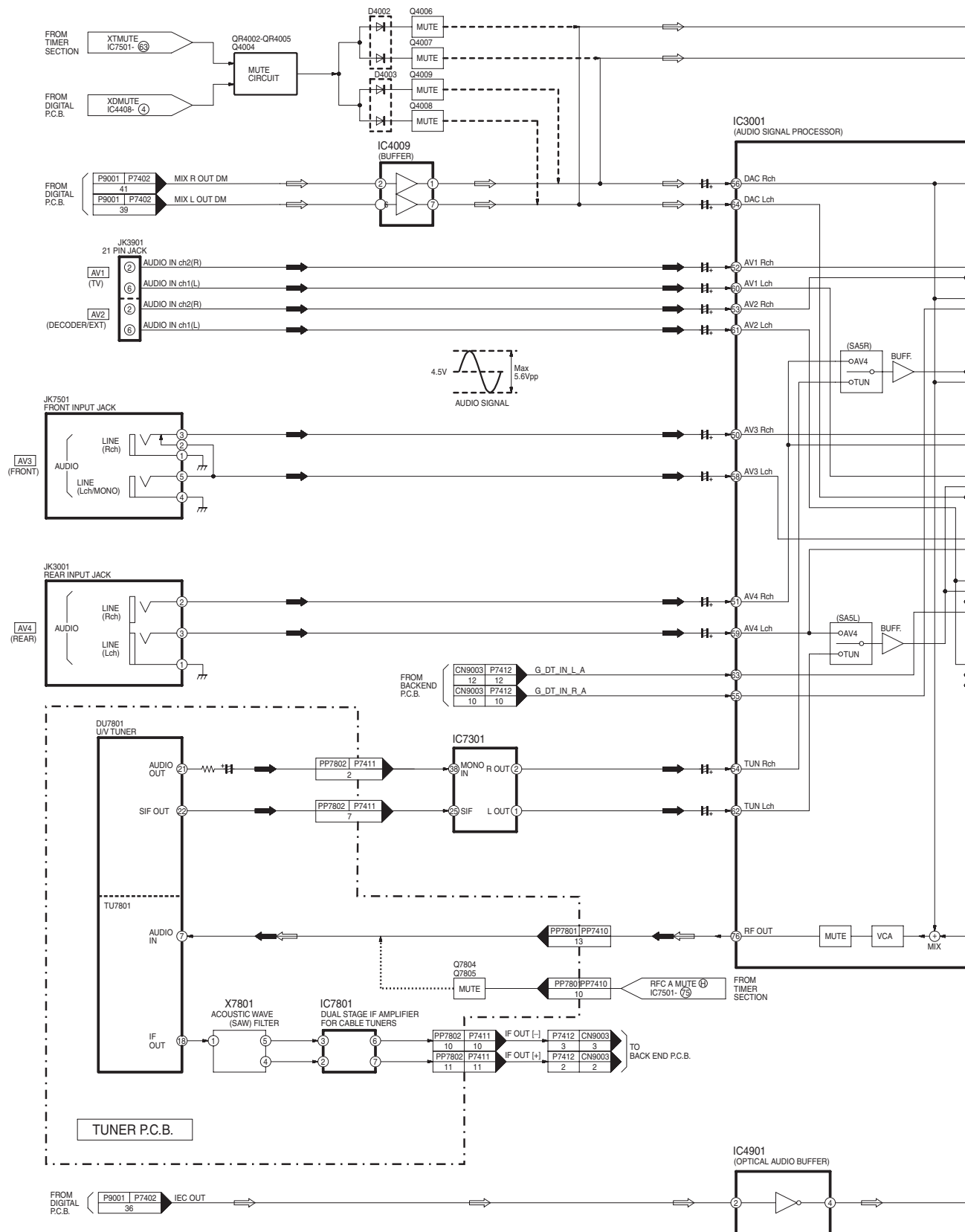
19.2. ANALOG VIDEO BLOCK DIAGRAM

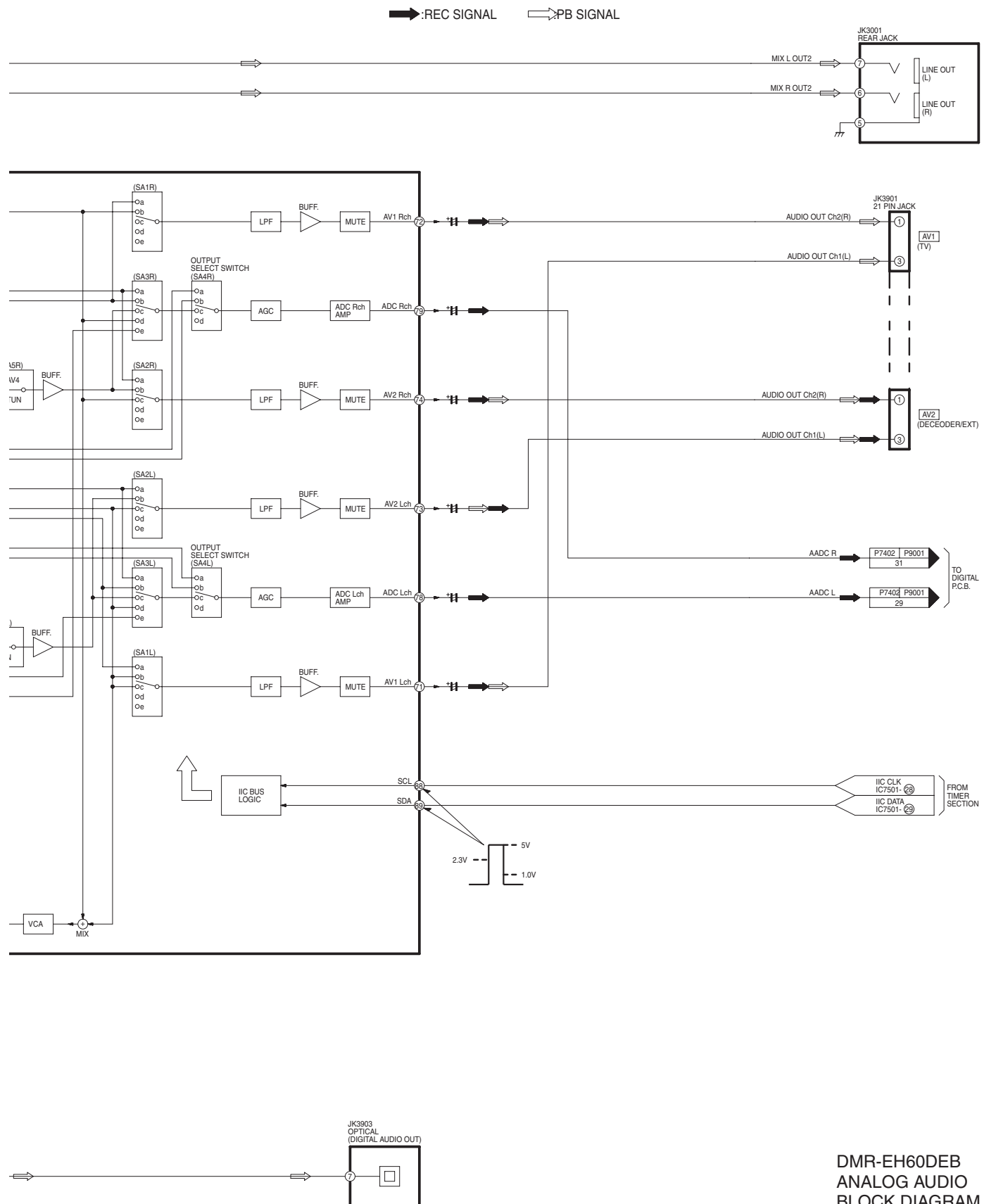




DMR-EH60DEB
 ANALOG VIDEO
 BLOCK DIAGRAM

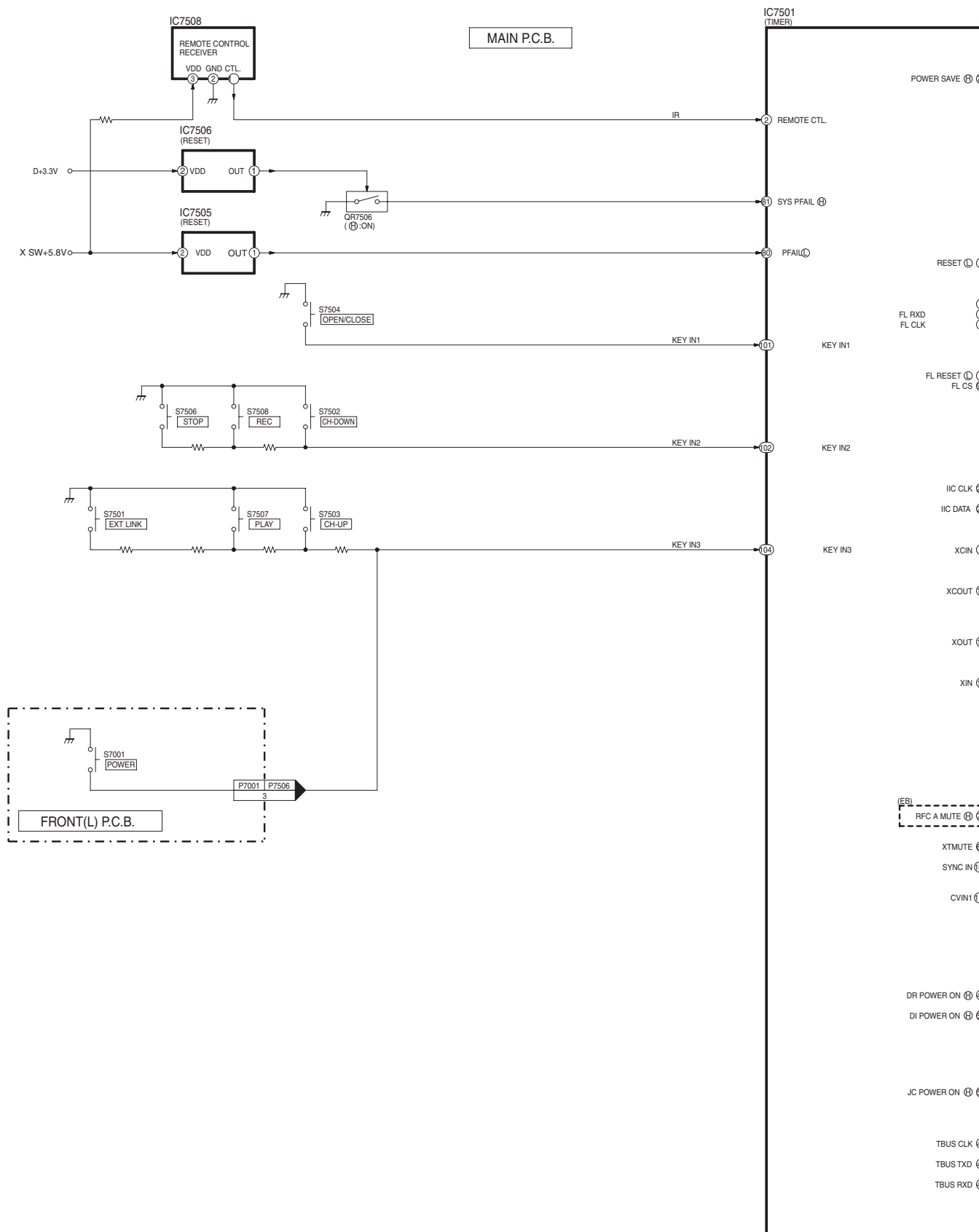
19.3. ANALOG AUDIO BLOCK DIAGRAM

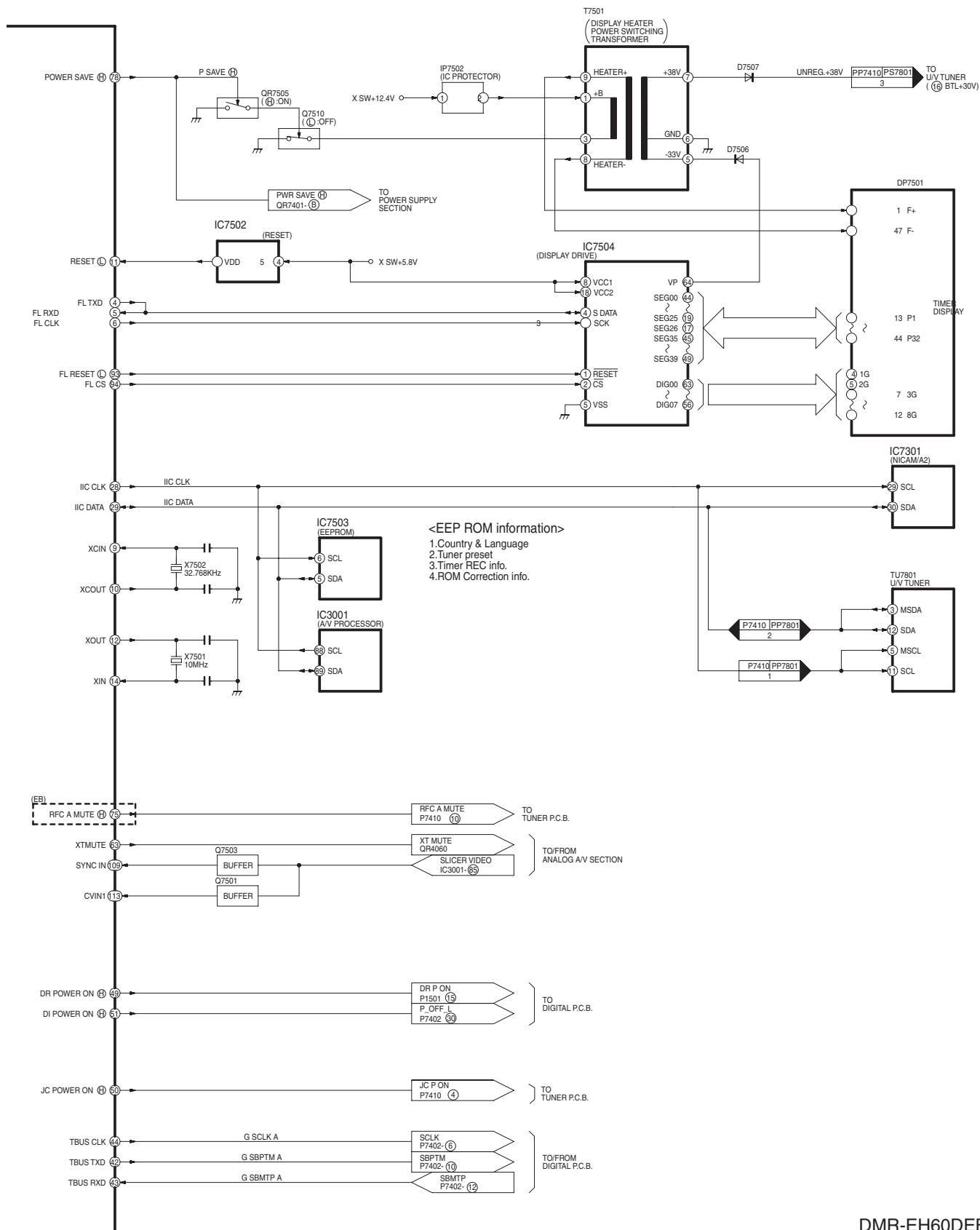




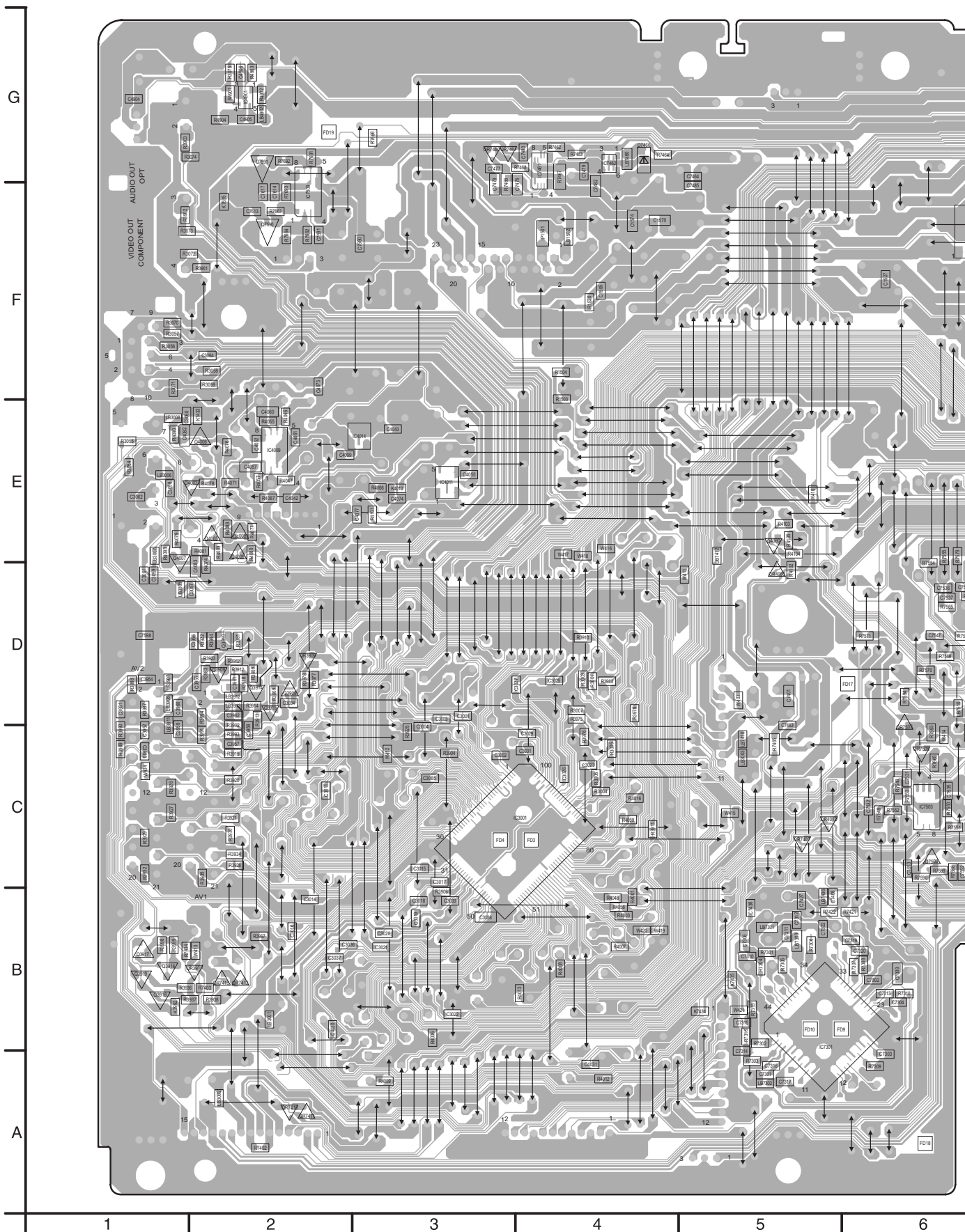
DMR-EH60DEB
ANALOG AUDIO
BLOCK DIAGRAM

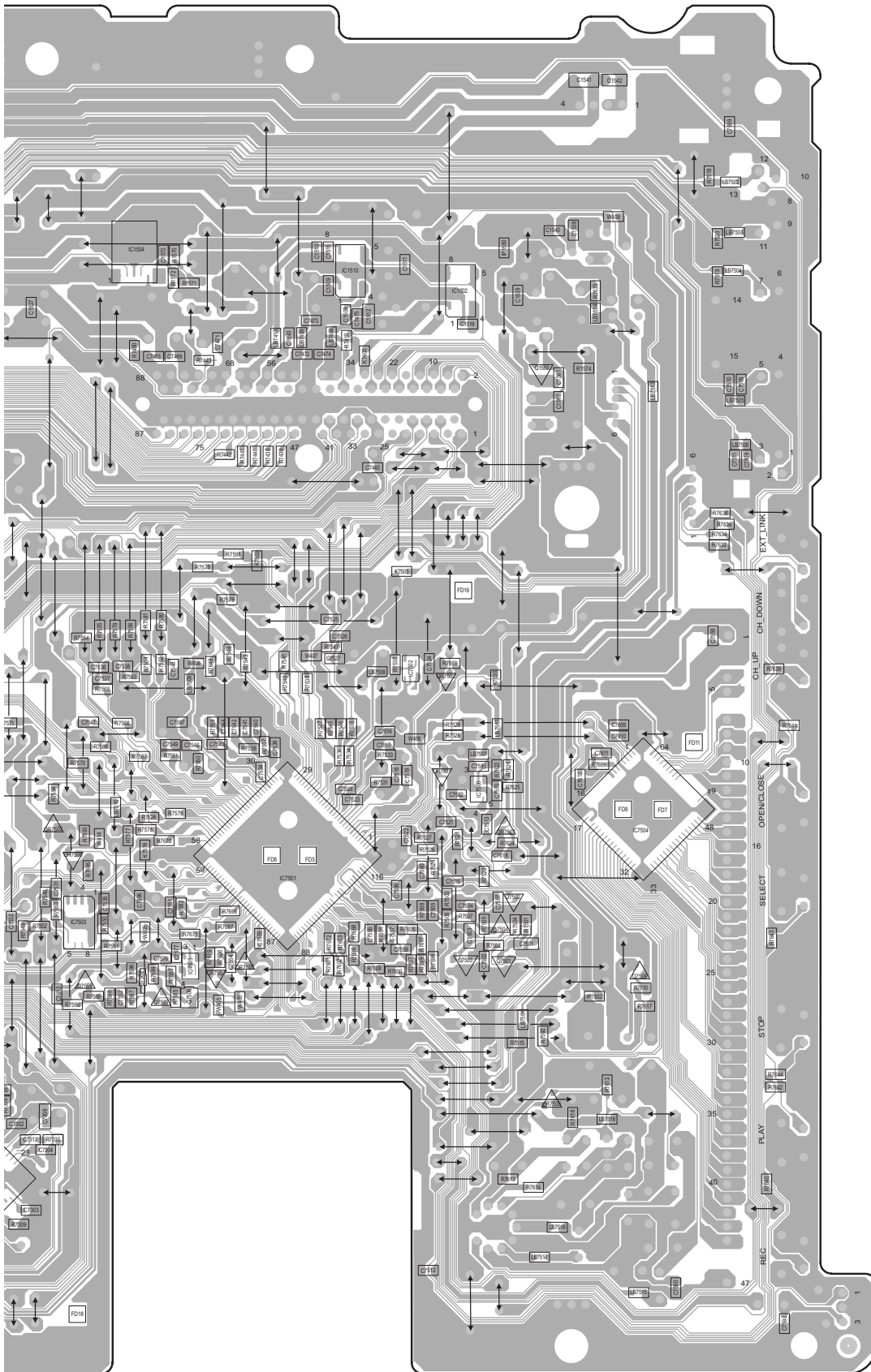
19.4. TIMER BLOCK DIAGRAM





DMR-EH60DEB
TIMER
BLOCK DIAGRAM



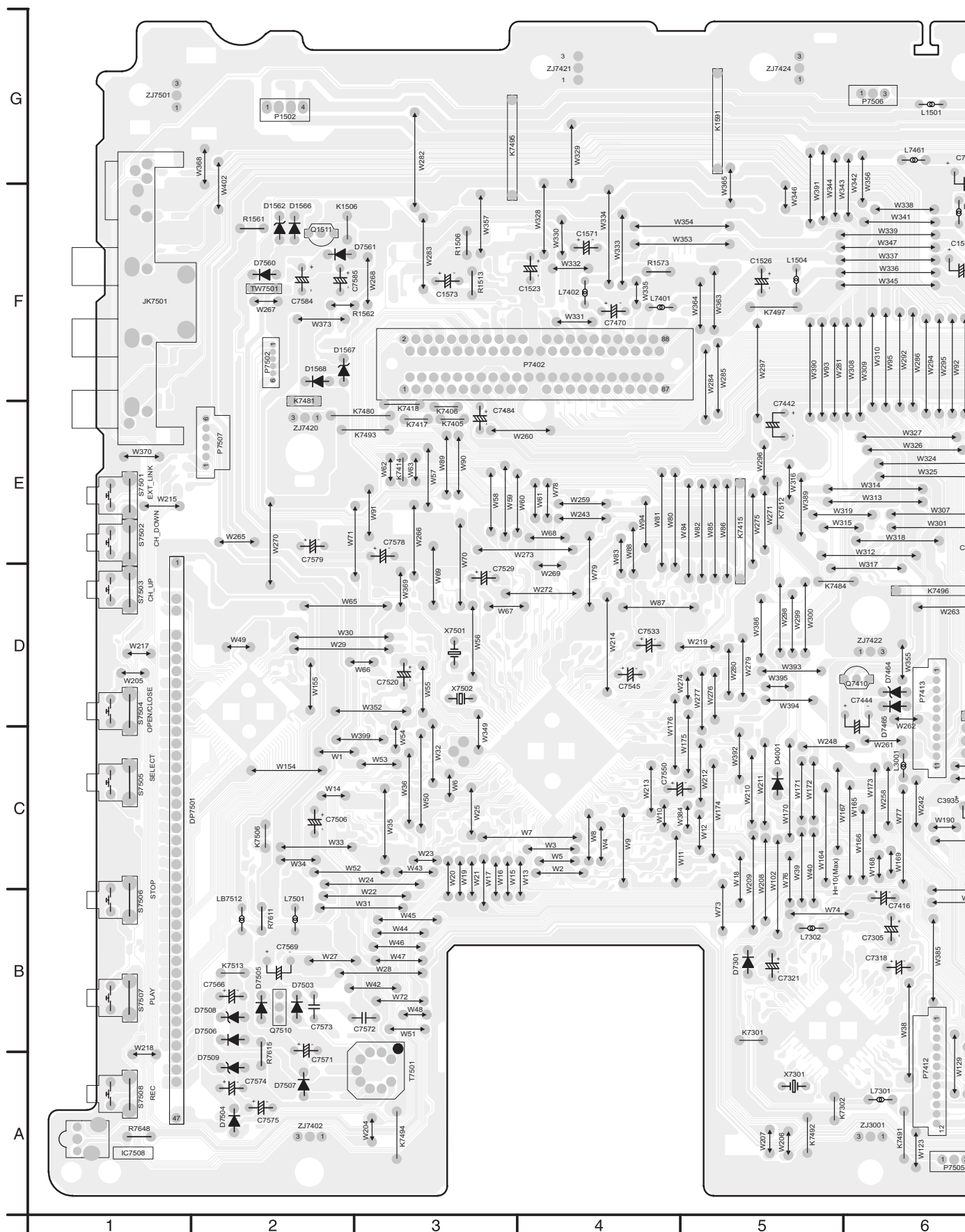


MAIN P.C.B.	
IC3001	C3
IC7301	A5
IC7501	C7
IC7502	D8
IC7503	C6
IC7504	C9
IC7505	C7
Q1560	F8
Q3908	D2
Q3909	D2
Q3910	B1
Q3914	D2
Q3915	D2
Q3916	B1
Q3917	B1
Q4006	E1
Q4007	E1
Q4008	E1
Q4009	E1
Q4060	E5
Q7501	C8
Q7502	C8
Q7503	C8
Q7504	C8
Q7506	C7
Q7507	C5
Q7508	C6
Q7509	C8
Q7590	F2
Q7591	G2
QR3909	D2
QR4012	C5
QR4060	D5
QR7401	C5
QR7410	A2
QR7411	A2
QR7412	B2
QR7415	B2
QR7460	G3
QR7461	G3
QR7501	D8
QR7502	D8
QR7503	C6
QR7504	C7
QR7505	B9
QR7506	C7
QR7507	C8
QR7508	C6
IP1501	F4
IP1560	F8
IP7502	C9

ADDRESS INFORMATION

DMR-EH60DEB
MAIN P.C.B.
SOLDER SIDE
REPD0019B

21.2. MAIN P.C.B.



21.3. TUNER P.C.B.

G

F

E

D

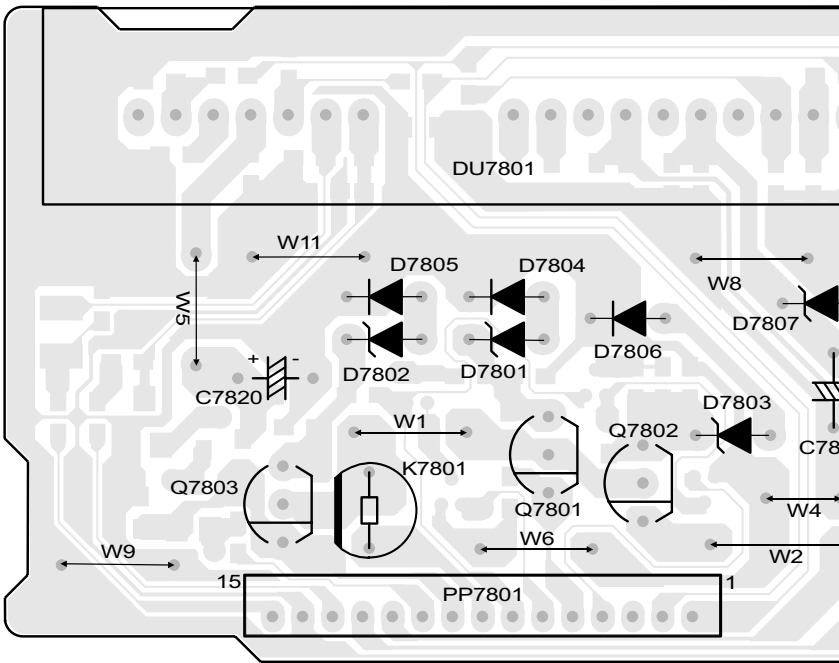
C

B

A

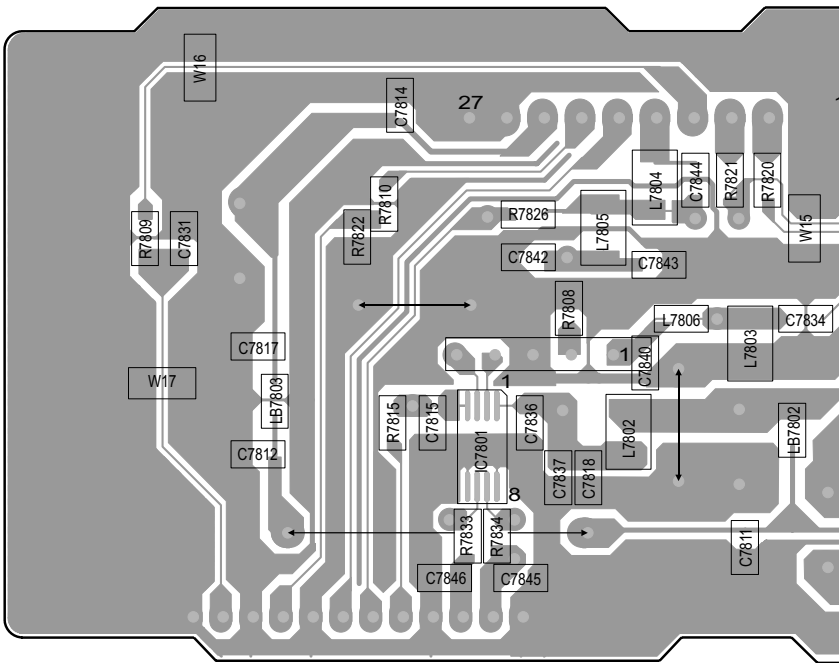
COMPONENT SIDE

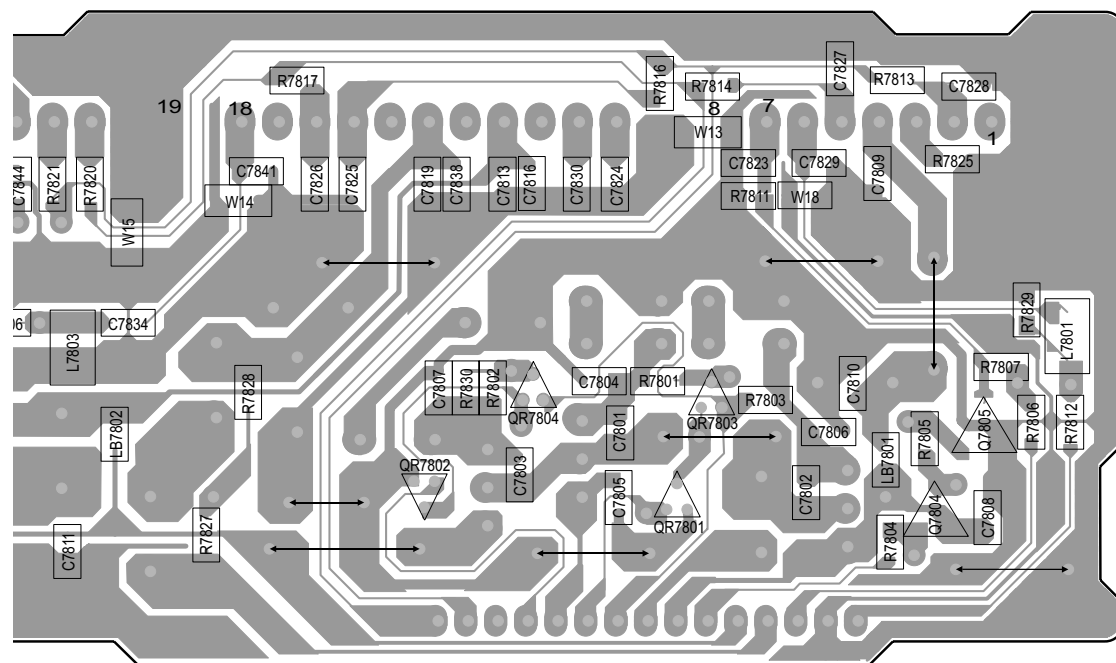
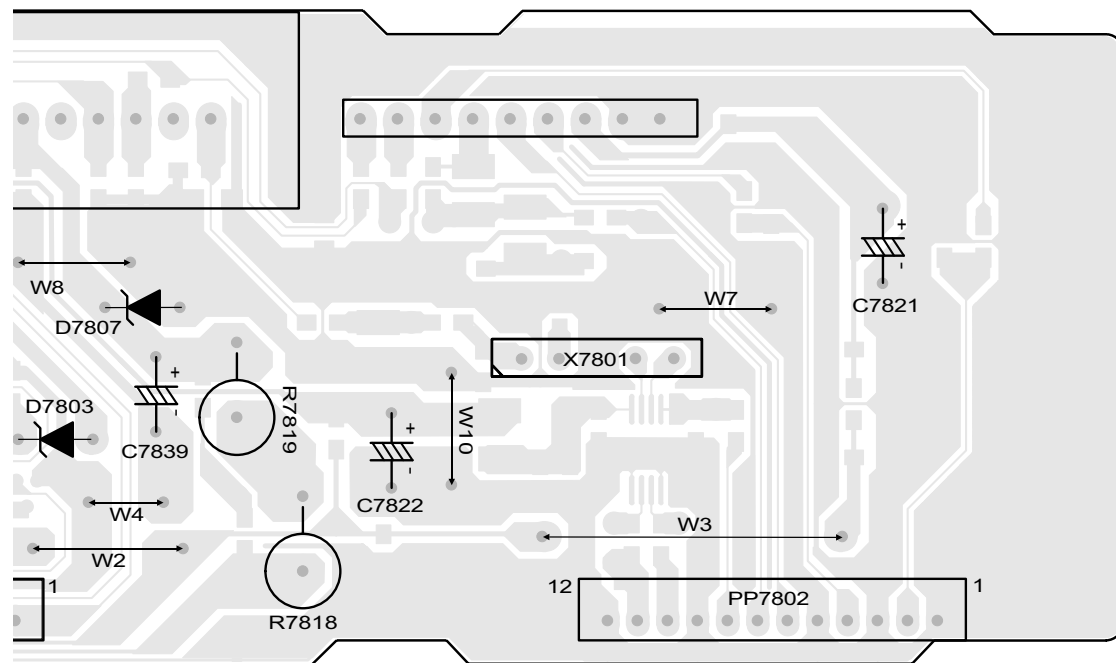
TUNER P.C.B.	
Q7801	E5
Q7802	E6
Q7803	E4
P7801	E5
P7802	E9
DU7801	F5
ADDRESS INFORMATION	



SOLDER SIDE

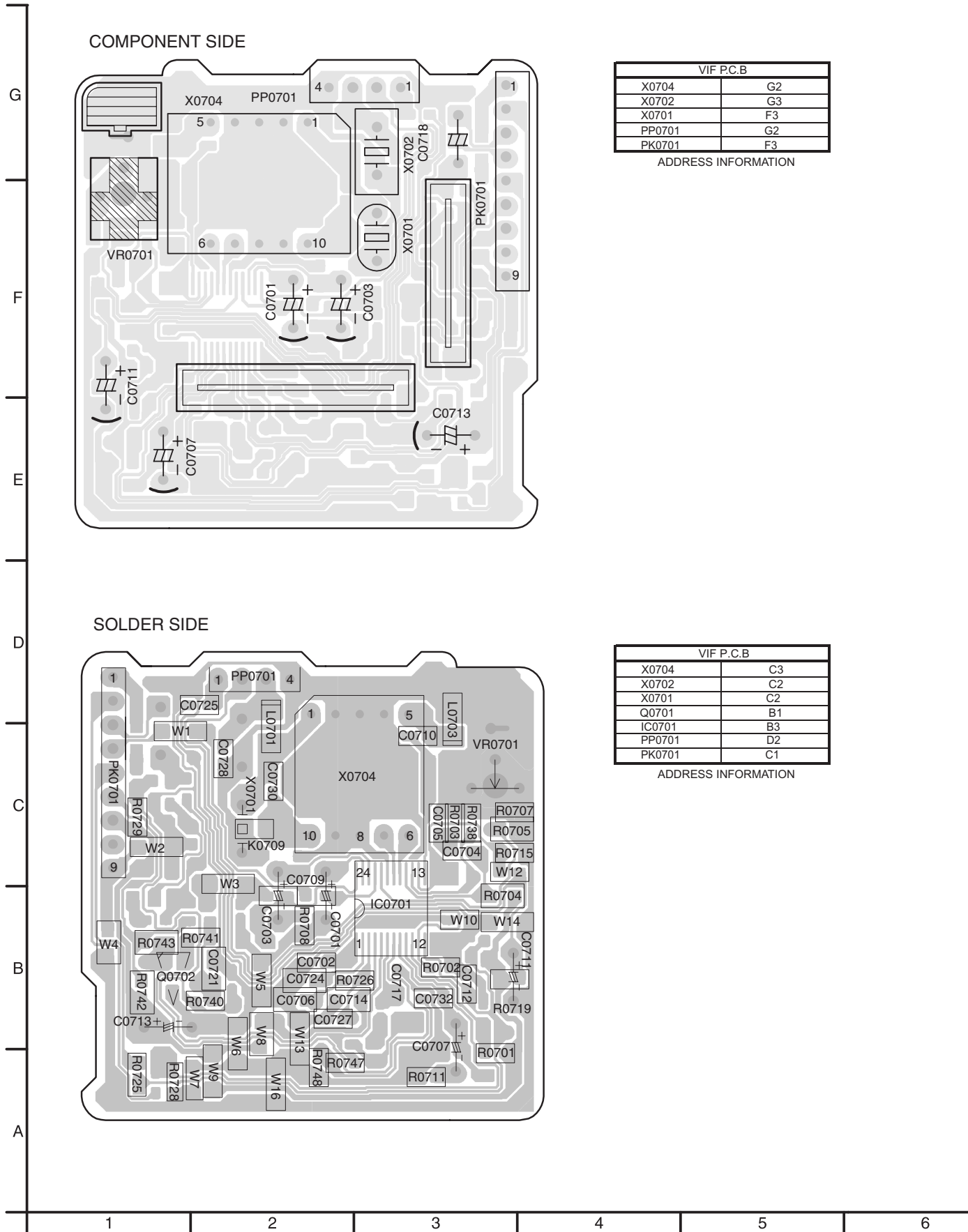
TUNER P.C.B.	
IC7801	B5
Q7804	B10
QR7801	B8
QR7802	B7
QR7803	B9
QR7804	B8
ADDRESS INFORMATION	





DMR-EH60DEB
TUNER P.C.B.
COMPONENT SIDE / SOLDER SIDE
REPD0022A

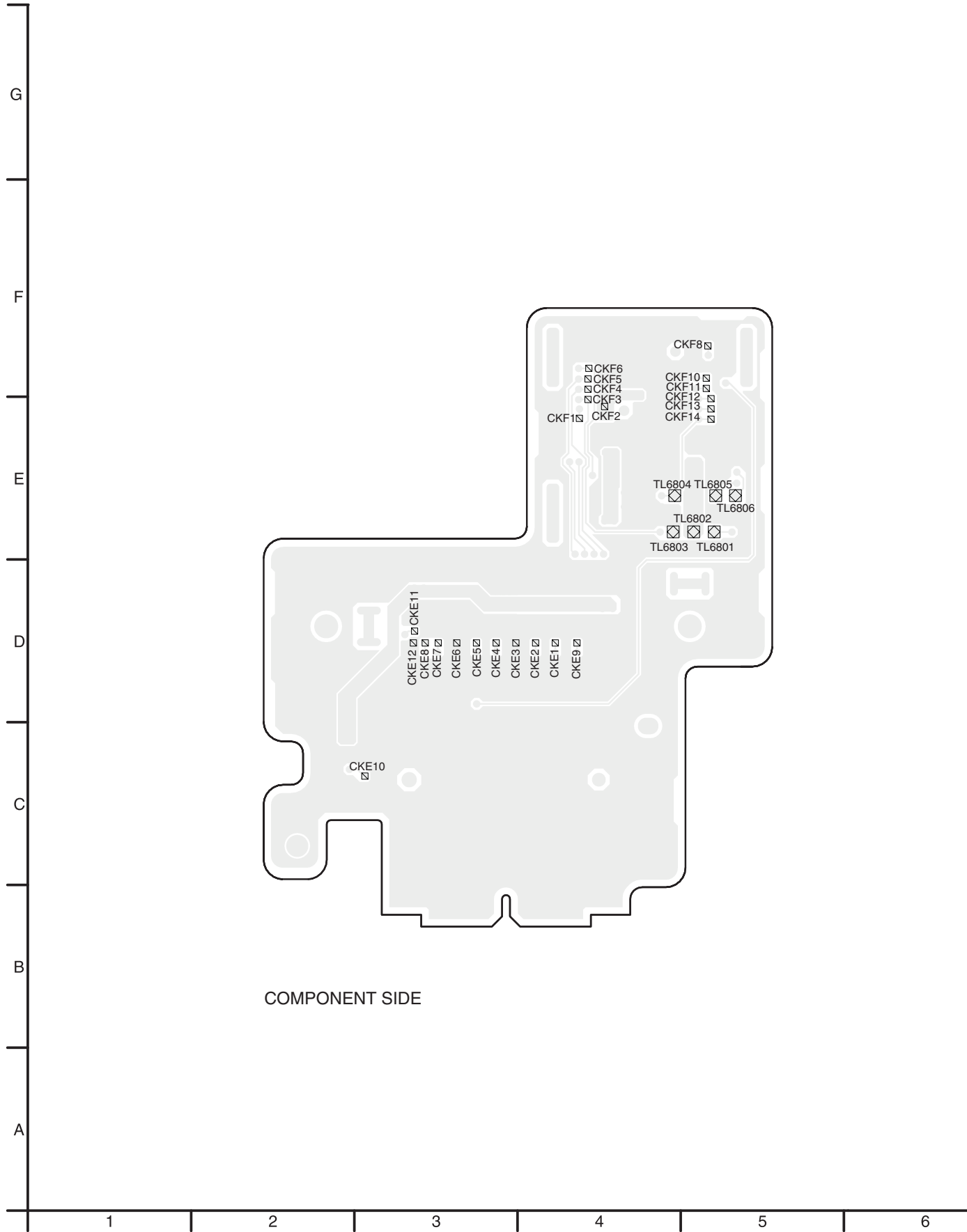
21.4. VIF P.C.B.

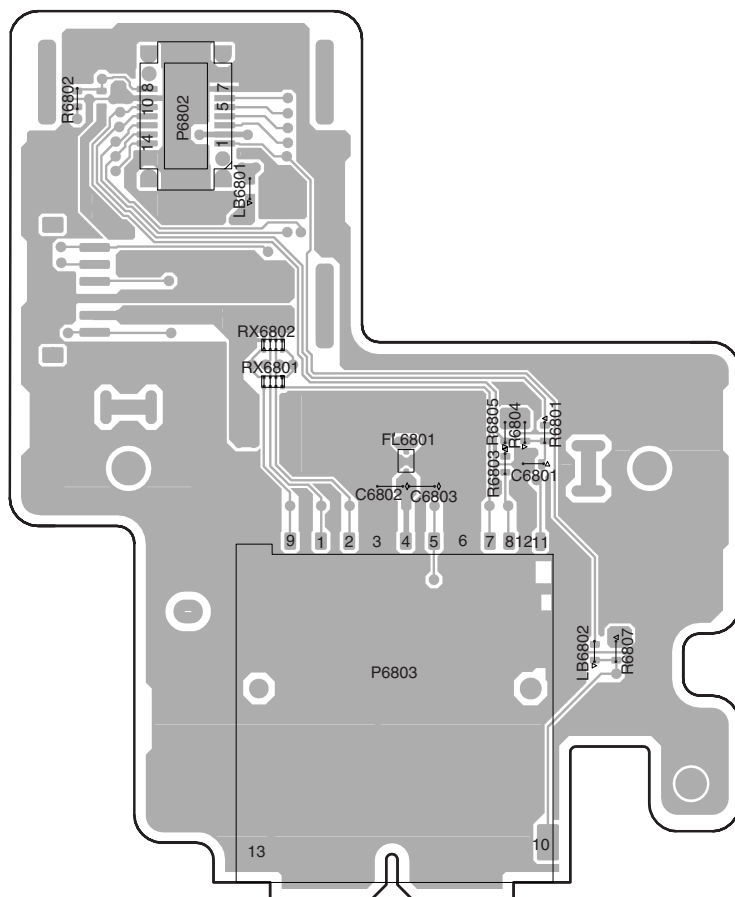


DMR-EH60DEB
VIF P.C.B.
COMPONENT SIDE / SOLDER SIDE
VEP07A71M

6 7 8 9 10 11

21.5. SD CARD



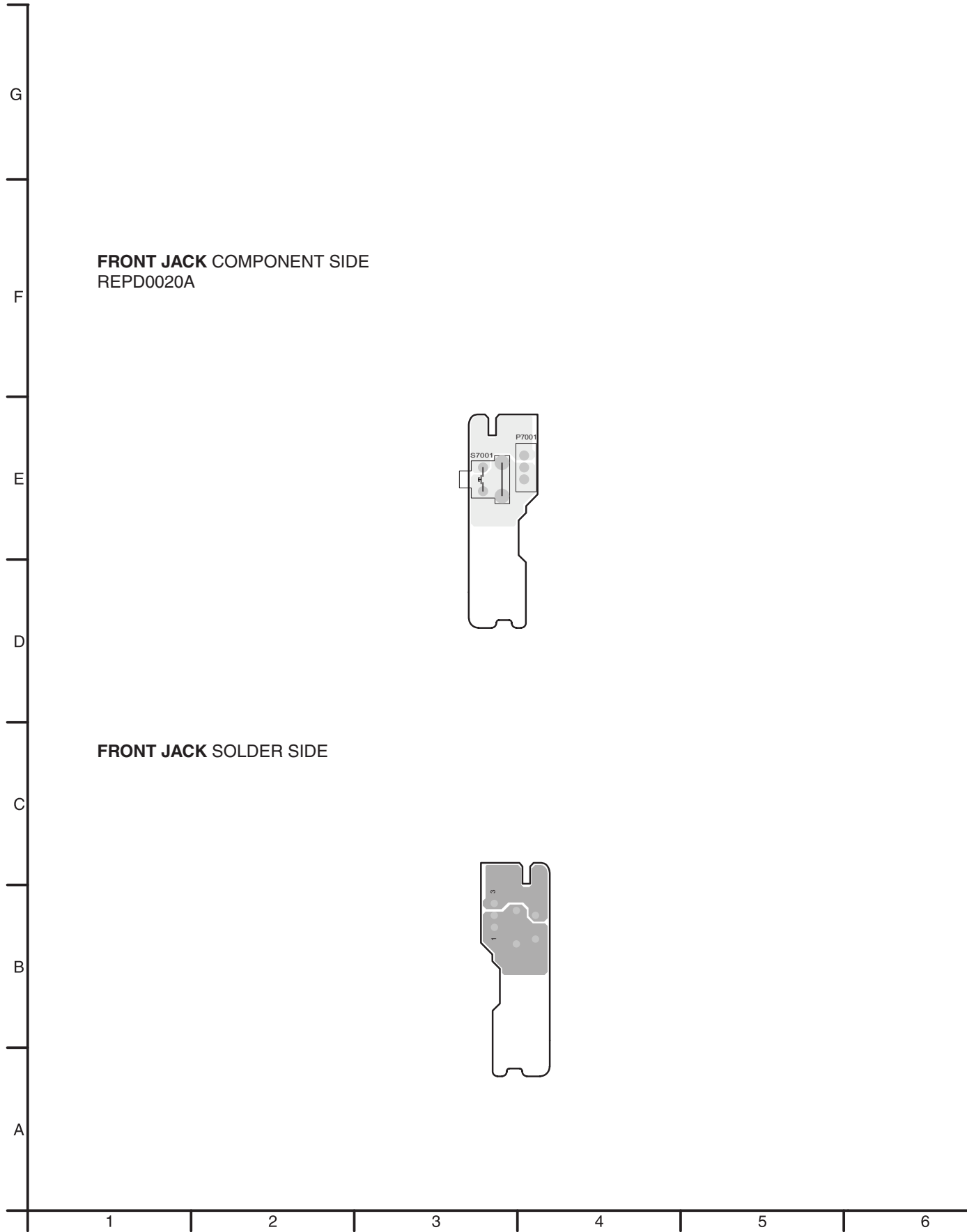


SOLDER SIDE

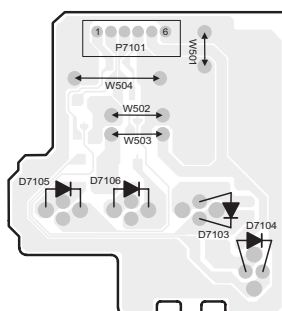
DMR-EH60DEB
SD CARD P.C.B.
COMPONENT SIDE/SOLDER SIDE
VEP73121E

6 7 8 9 10 11

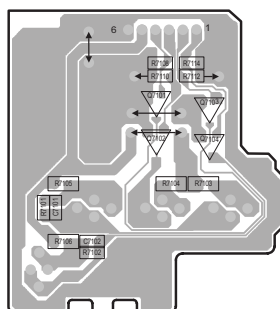
21.6. FRONT P.C.B. AND LED P.C.B.



LED COMPONENT SIDE
REPD0021A



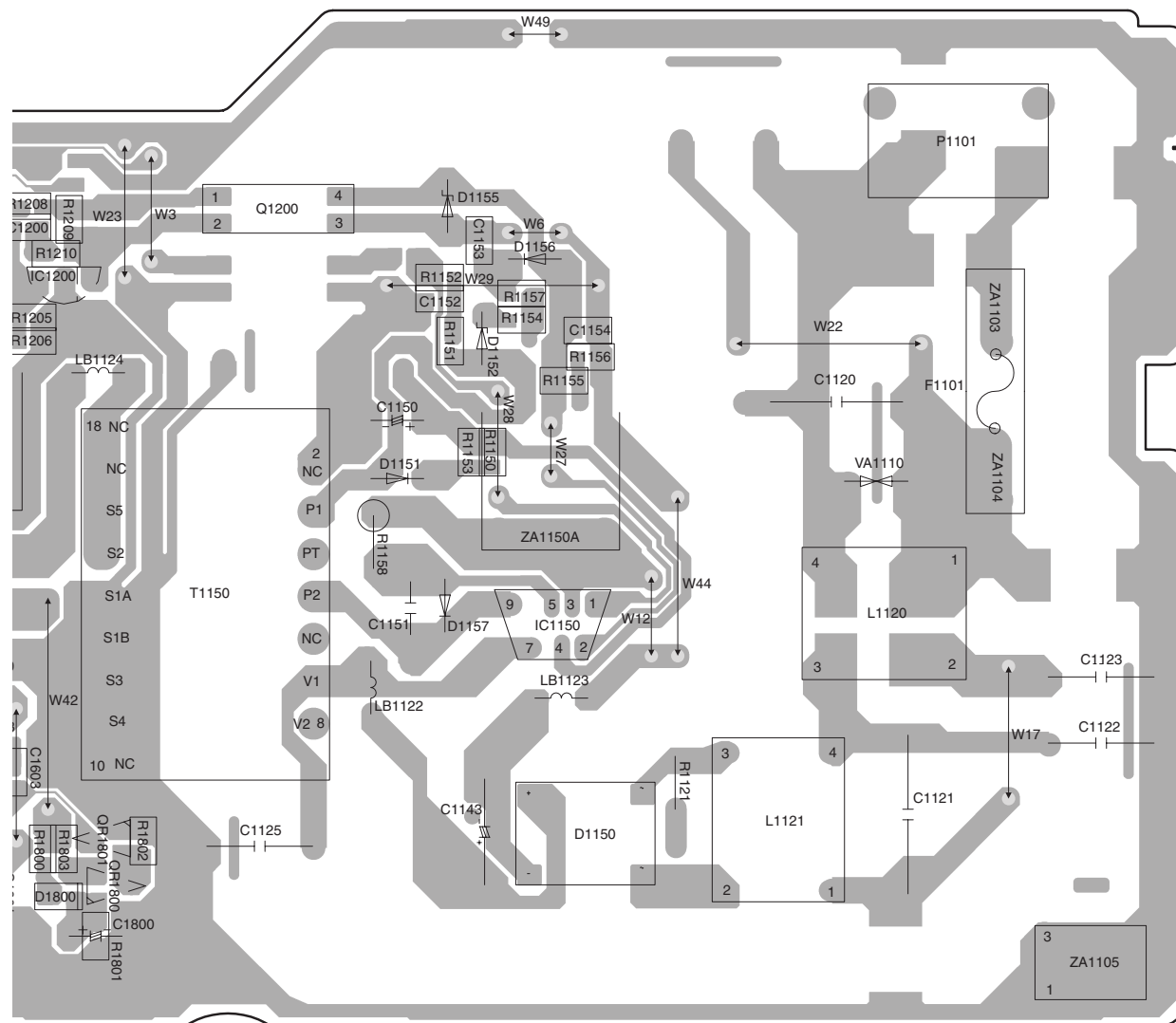
LED SOLDER SIDE



DMR-EH60DEB
FRONT P.C.B./LED P.C.B.
COMPONENT SIDE/SOLDER SIDE

21.1. POWER P.C.B.

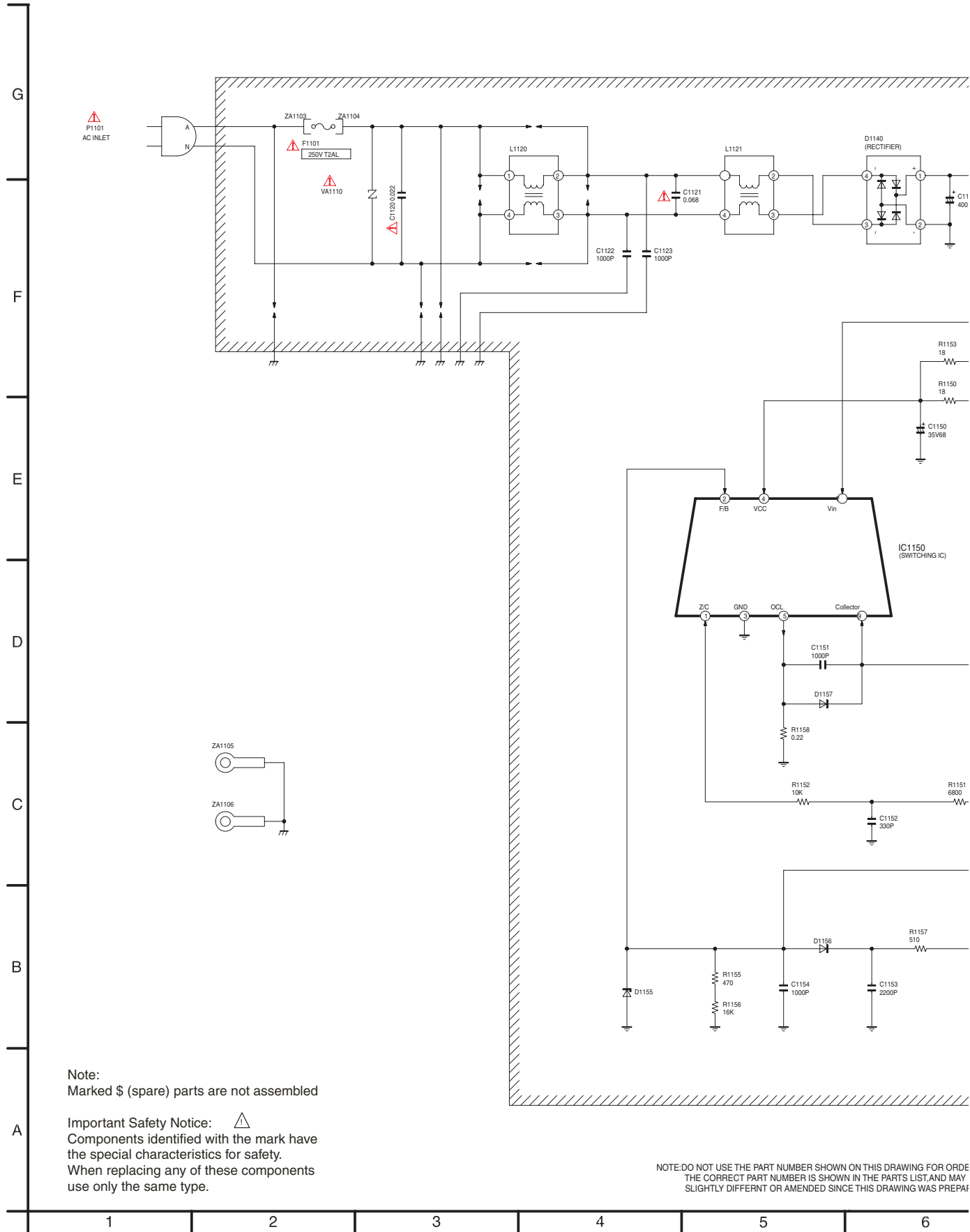
ADDRESS INFORMATION



DMR-EH60DEB
POWER P.C.B.
SOLDER SIDE
VEP01961B

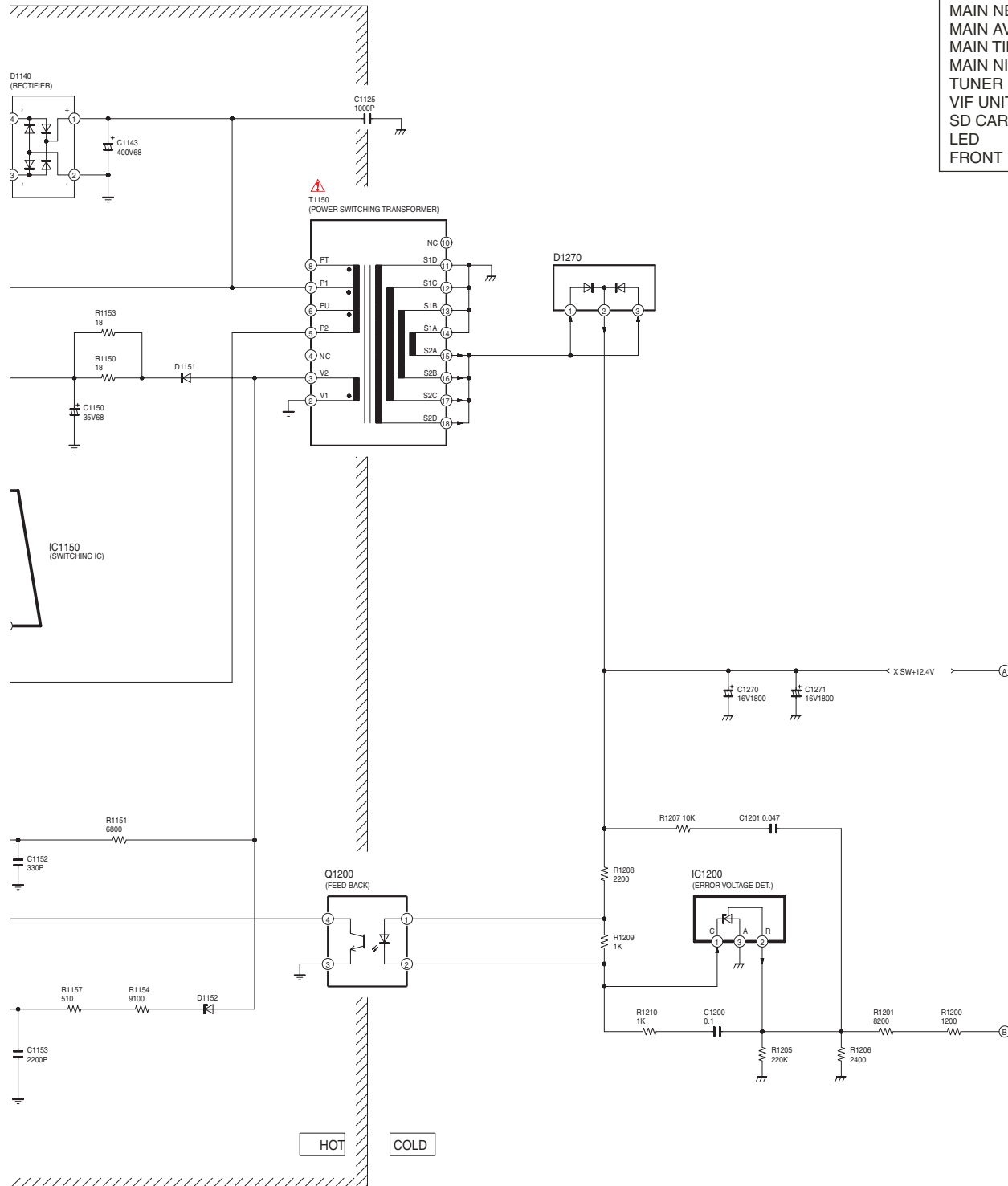
20 SCHEMATIC DIAGRAM

20.1. POWER SCHEMATIC DIAGRAM



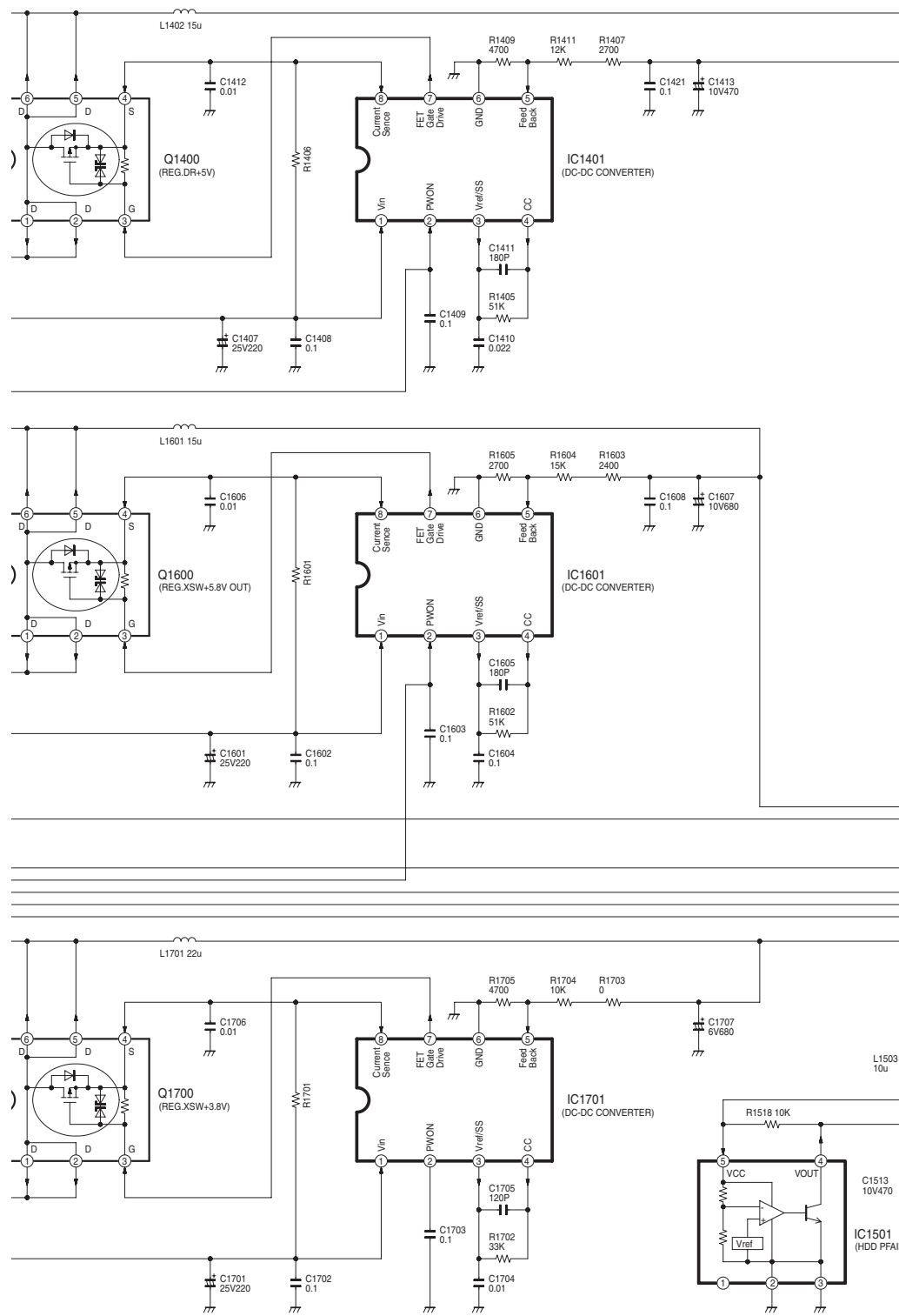
NAVIGATION

INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT



THIS DRAWING FOR ORDERING.
THE PARTS LIST AND MAY BE
THIS DRAWING WAS PREPARED.

DMR-EH60DEB
POWER 1/2
SCHEMATIC DIAGRAM



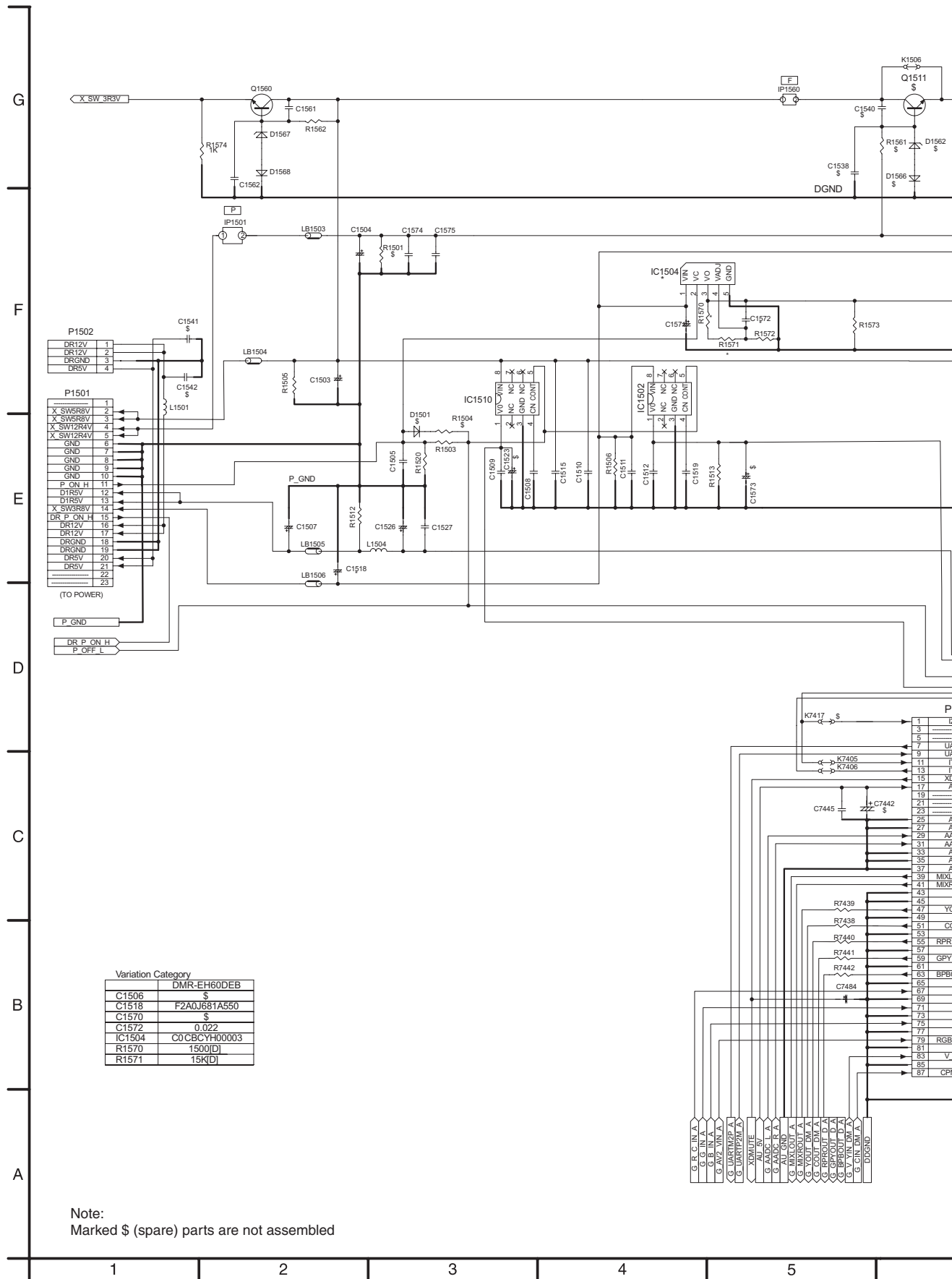
NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT

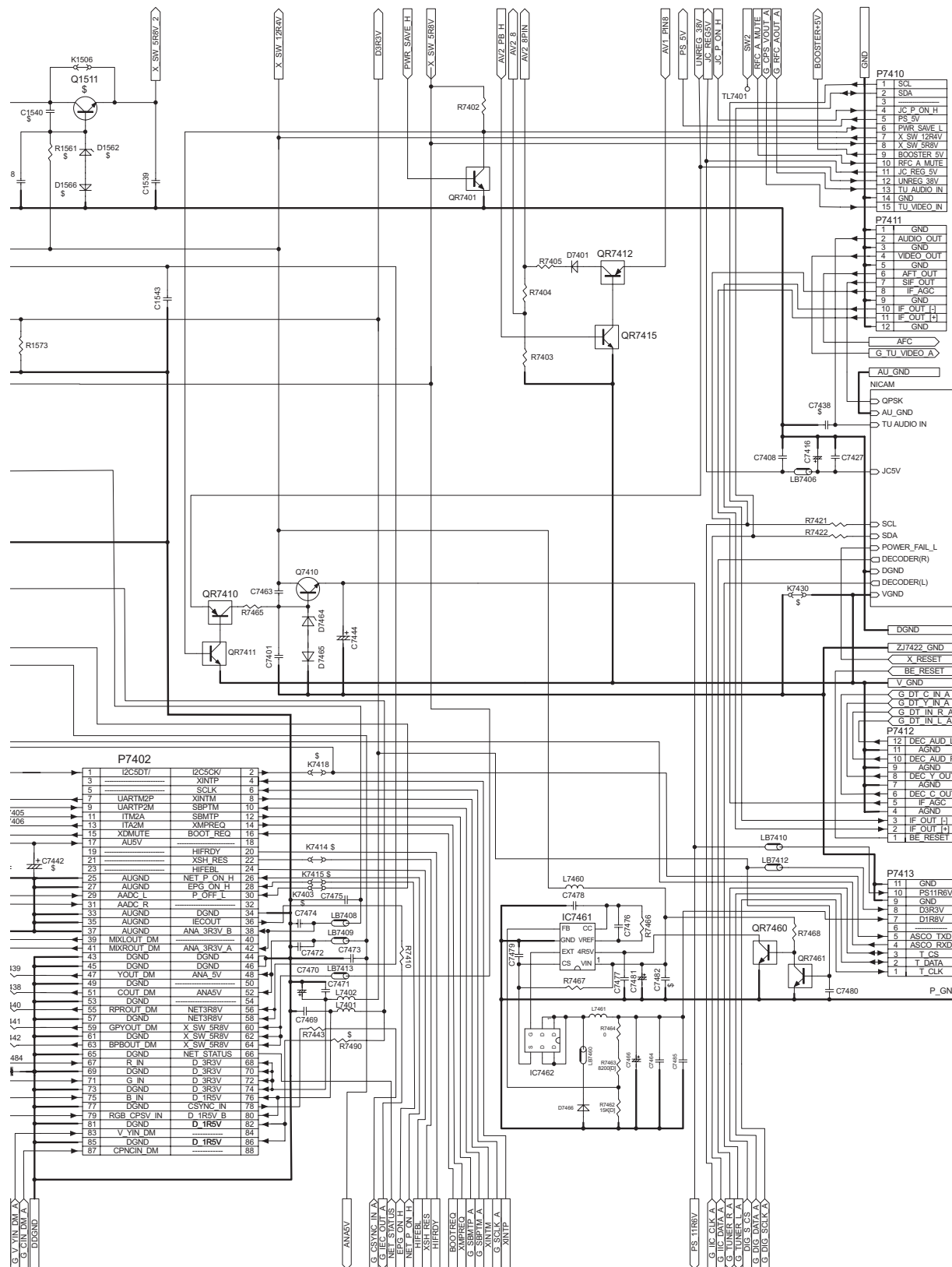
TO P1501 MAIN P.C.B. (MAIN NET SECTION) P1102	
1	
2	X SW 5.8V
3	X SW 5.8V
4	X SW 12.4V
5	X SW 12.4V
6	GND
7	GND
8	GND
9	GND
10	GND
11	POWER ON (P)
12	D1.5V
13	D1.5V
14	X SW 3.8V
15	DR P ON (P)
16	DR12V
17	DR12V
18	DRGND
19	DRGND
20	DR5V
21	DR5V
22	HDD PFAIL (P)
23	

TO HDD P1103	
1	DR12V
2	DR GND
3	DR GND
4	DR5V

DMR-EH60DEB
POWER 2/2
SCHEMATIC DIAGRAM

20.2. MAIN NET

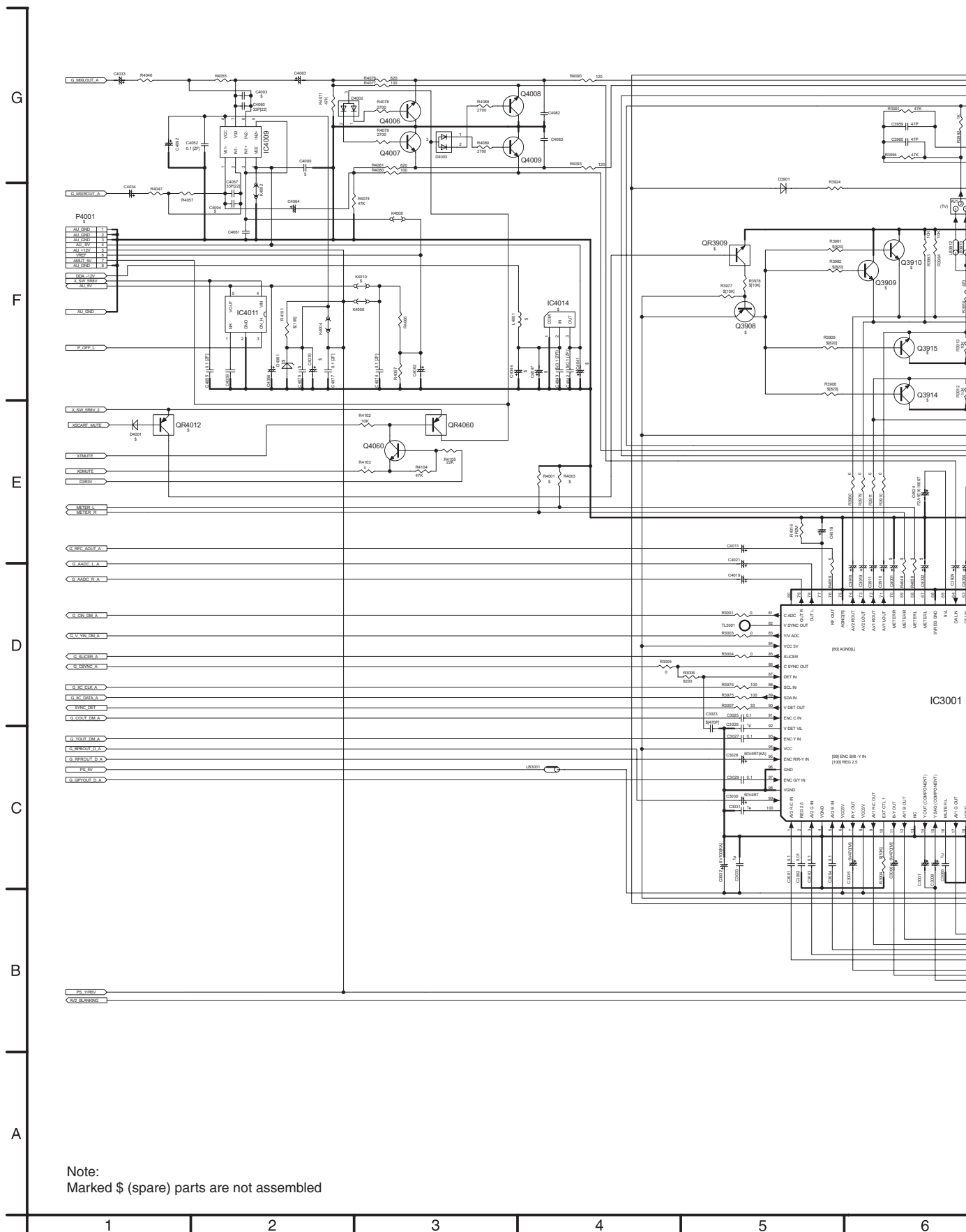


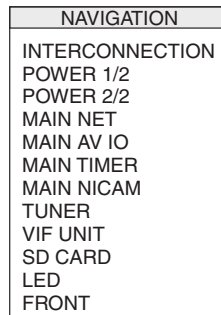


NAVIGATION	
INTERCONNECTION	
POWER 1/2	
POWER 2/2	
MAIN NET	
MAIN AV IO	
MAIN TIMER	
MAIN NICAM	
TUNER	
VIF UNIT	
SD CARD	
LED	
FRONT	

DMR-EH60DEB
MAIN NET
SCHEMATIC DIAGRAM

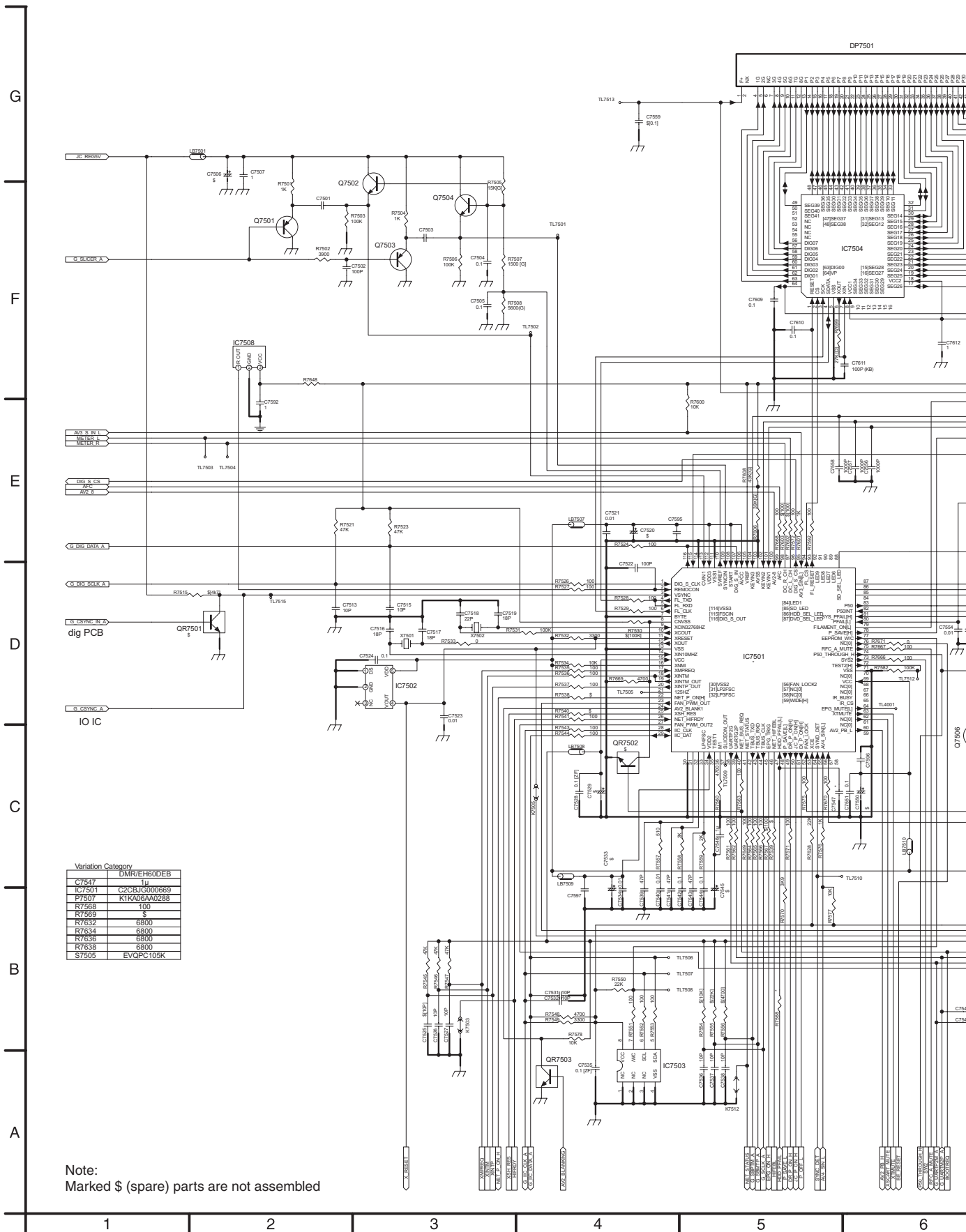
20.3. MAIN AV IO





DMR-EH60DEB
MAIN AV IO
SCHEMATIC DIAGRAM

20.4. MAIN TIMER



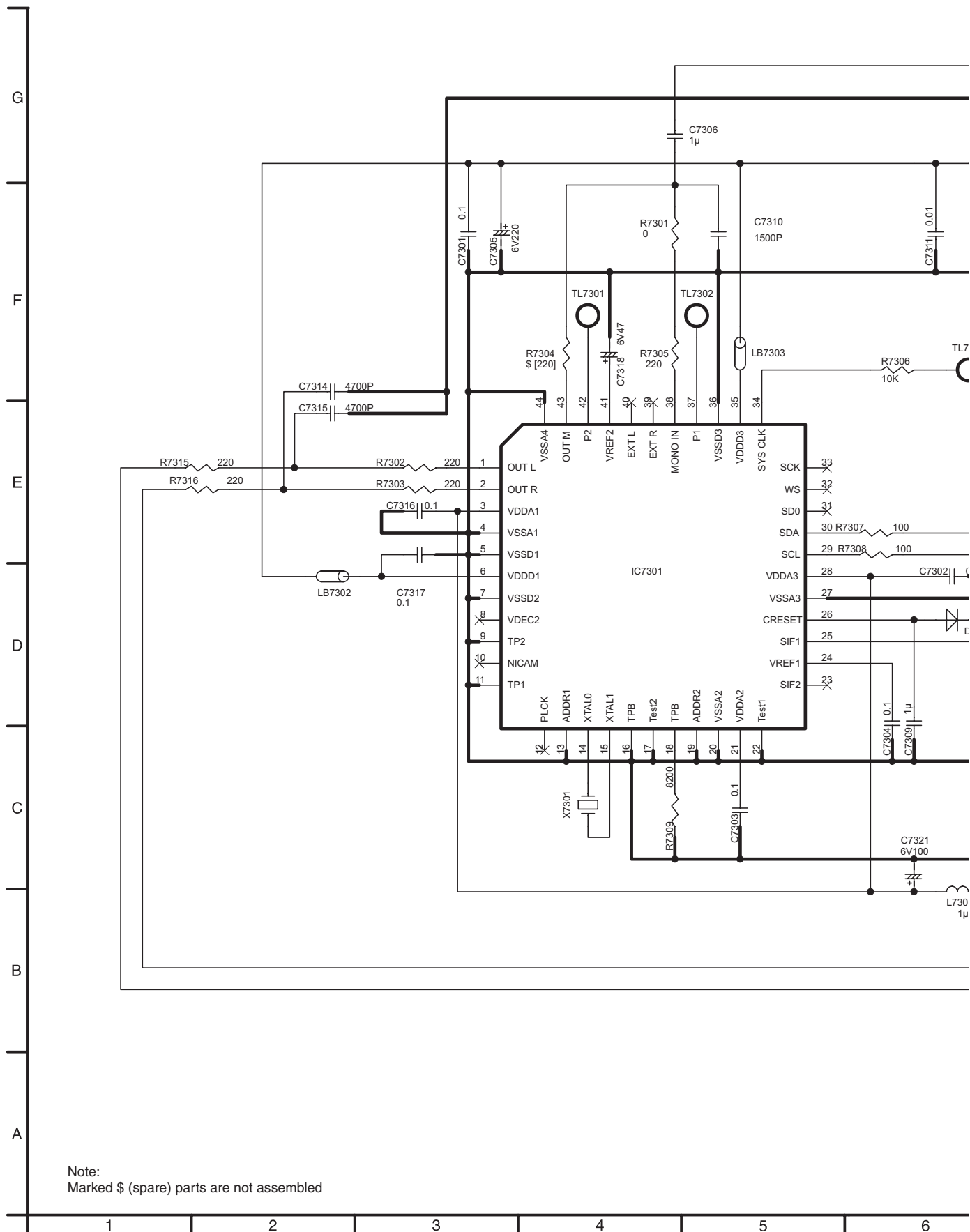


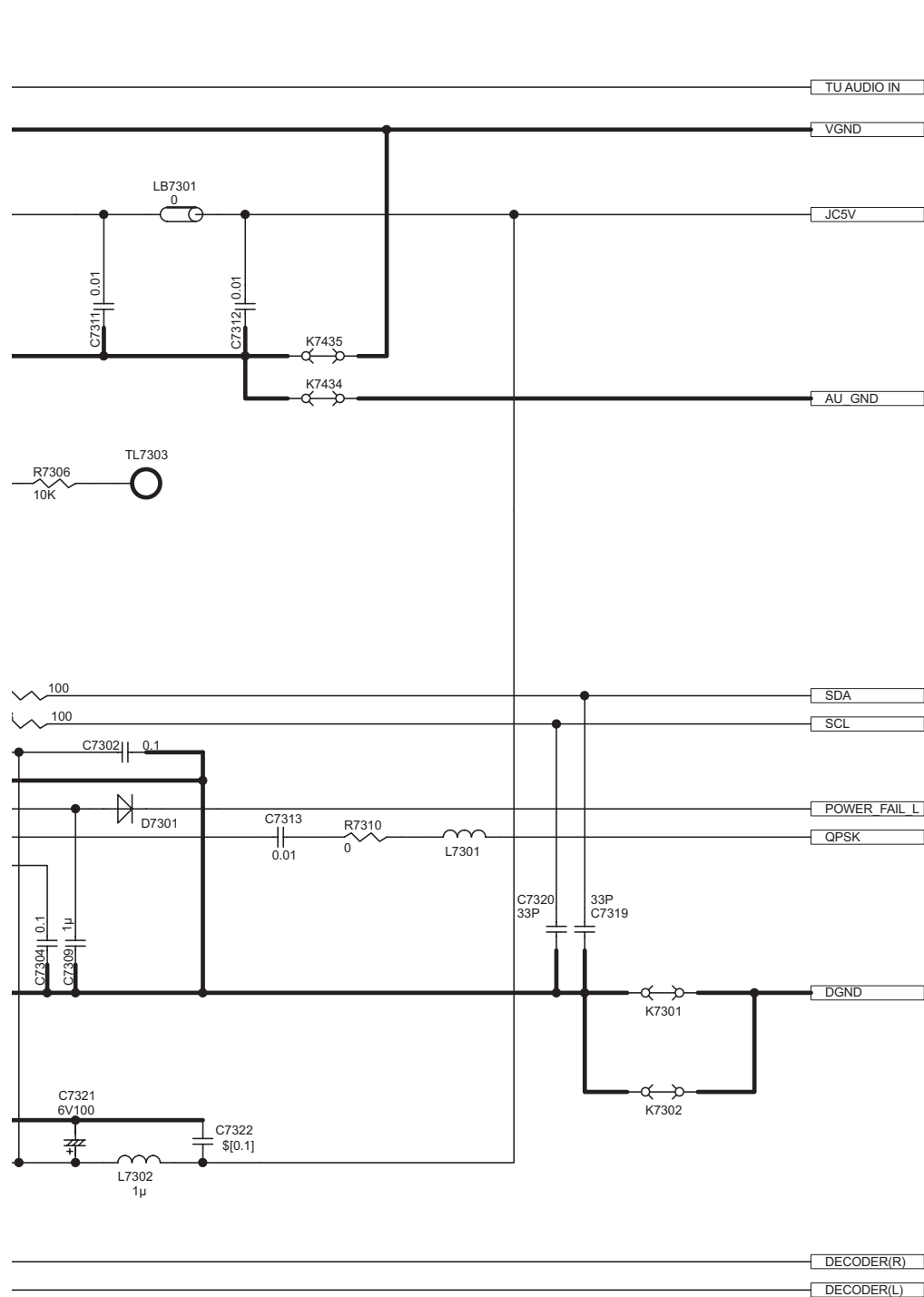
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT

INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT

DMR-EH60DEB MAIN TIMER SCHEMATIC DIAGRAM

20.5. MAIN NICAM

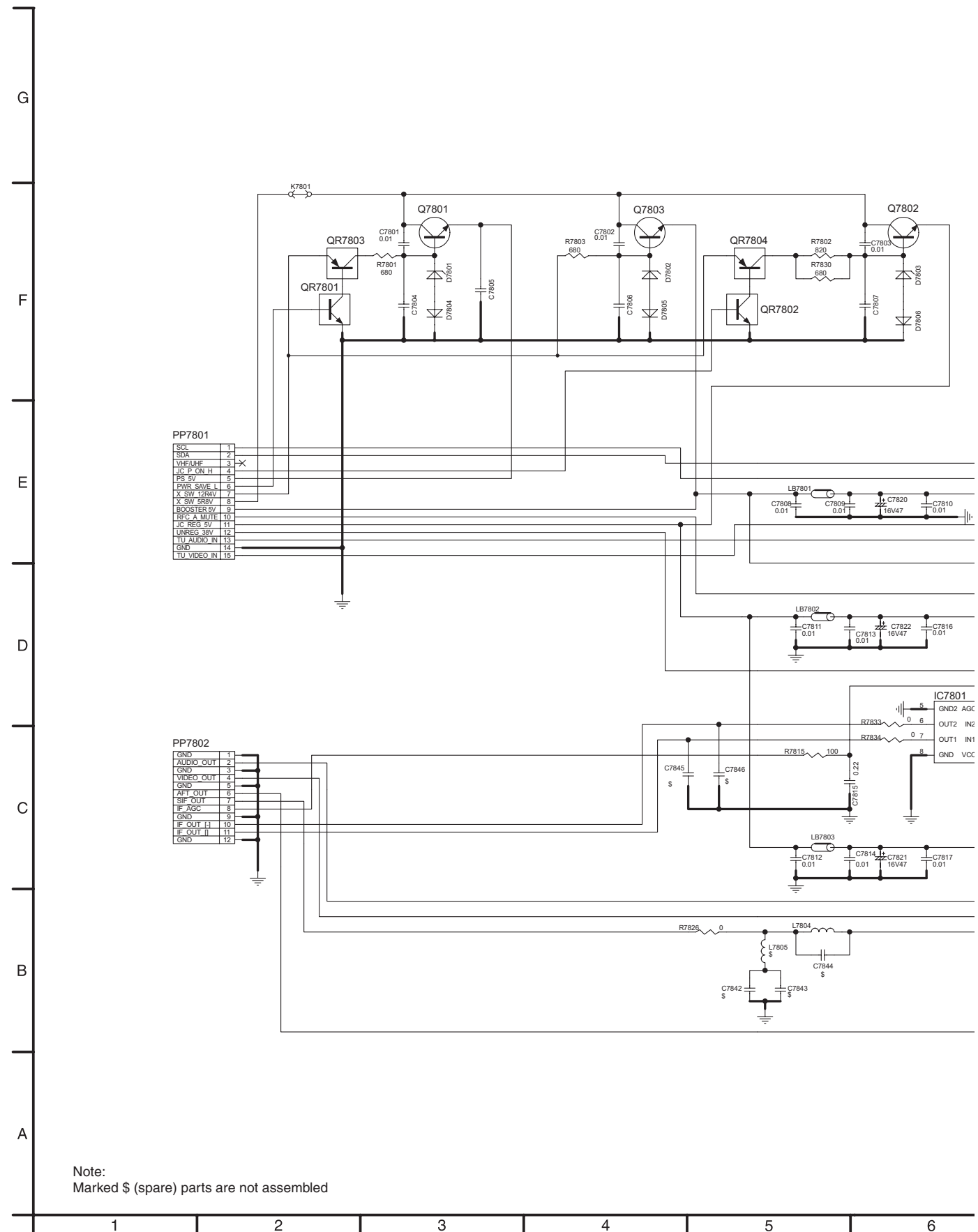


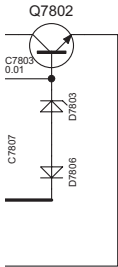


NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT

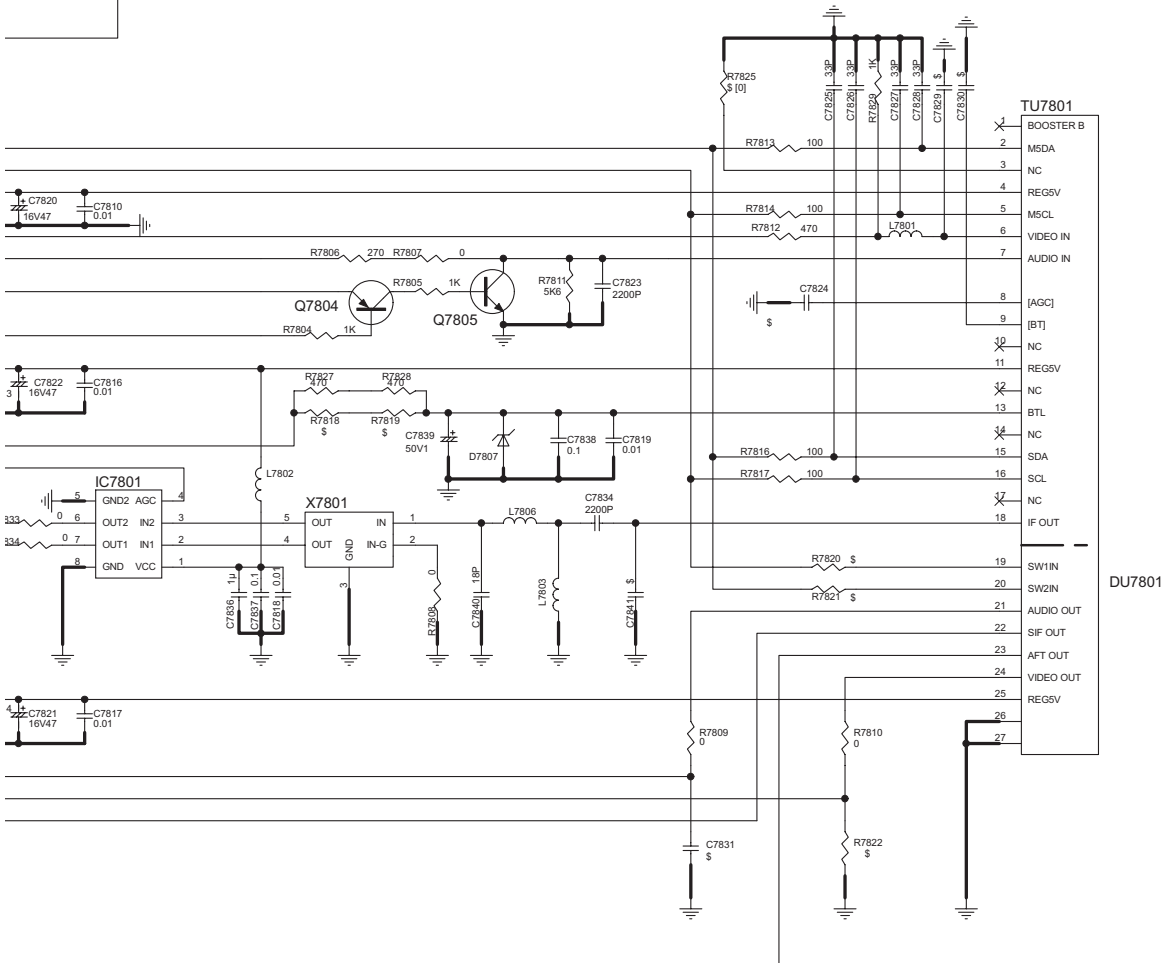
DMR-EH60DEB
MAIN NICAM
SCHEMATIC DIAGRAM

20.6. TUNER





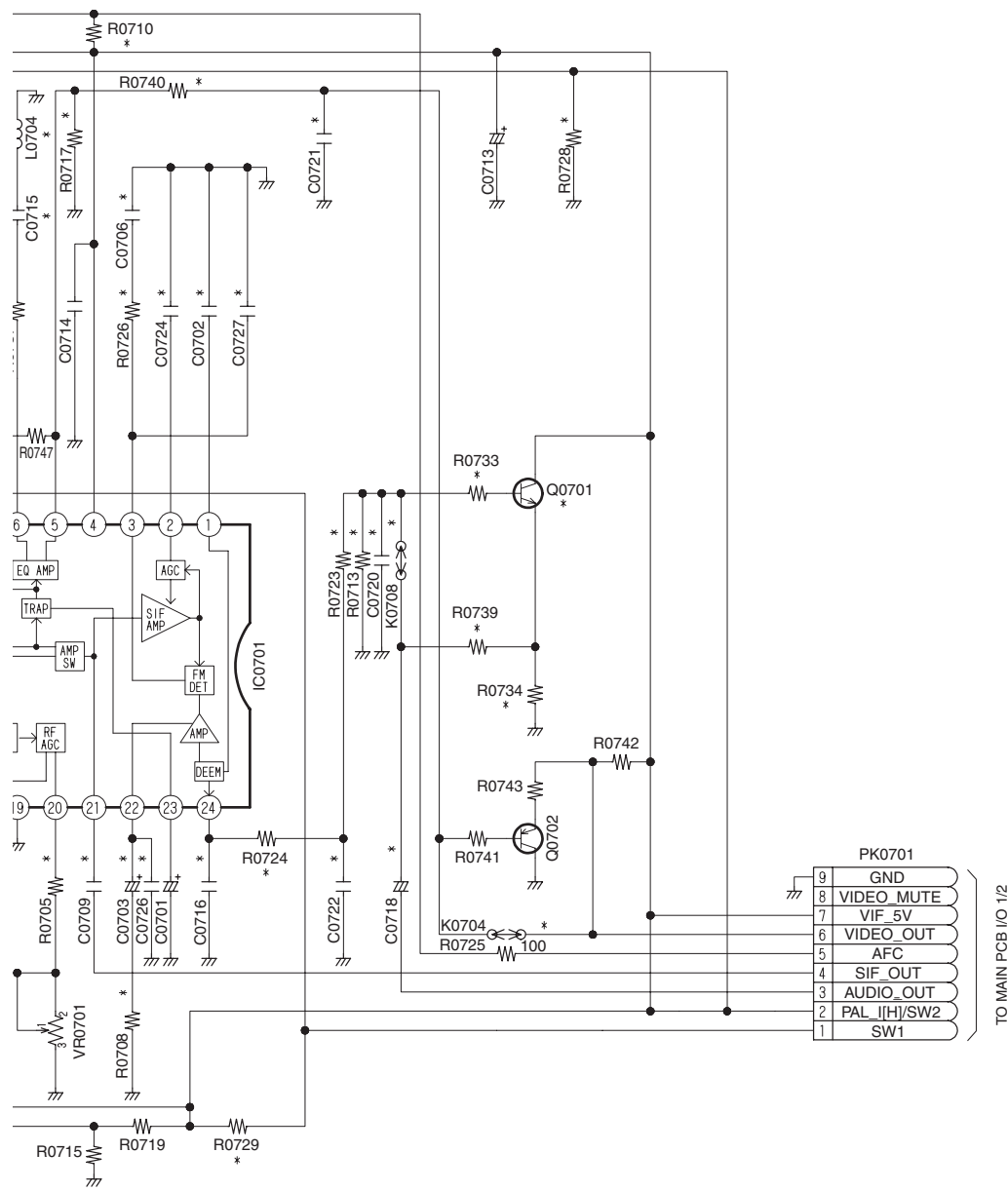
NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT



DMR-EH60DEB
TUNER
SCHEMATIC DIAGRAM

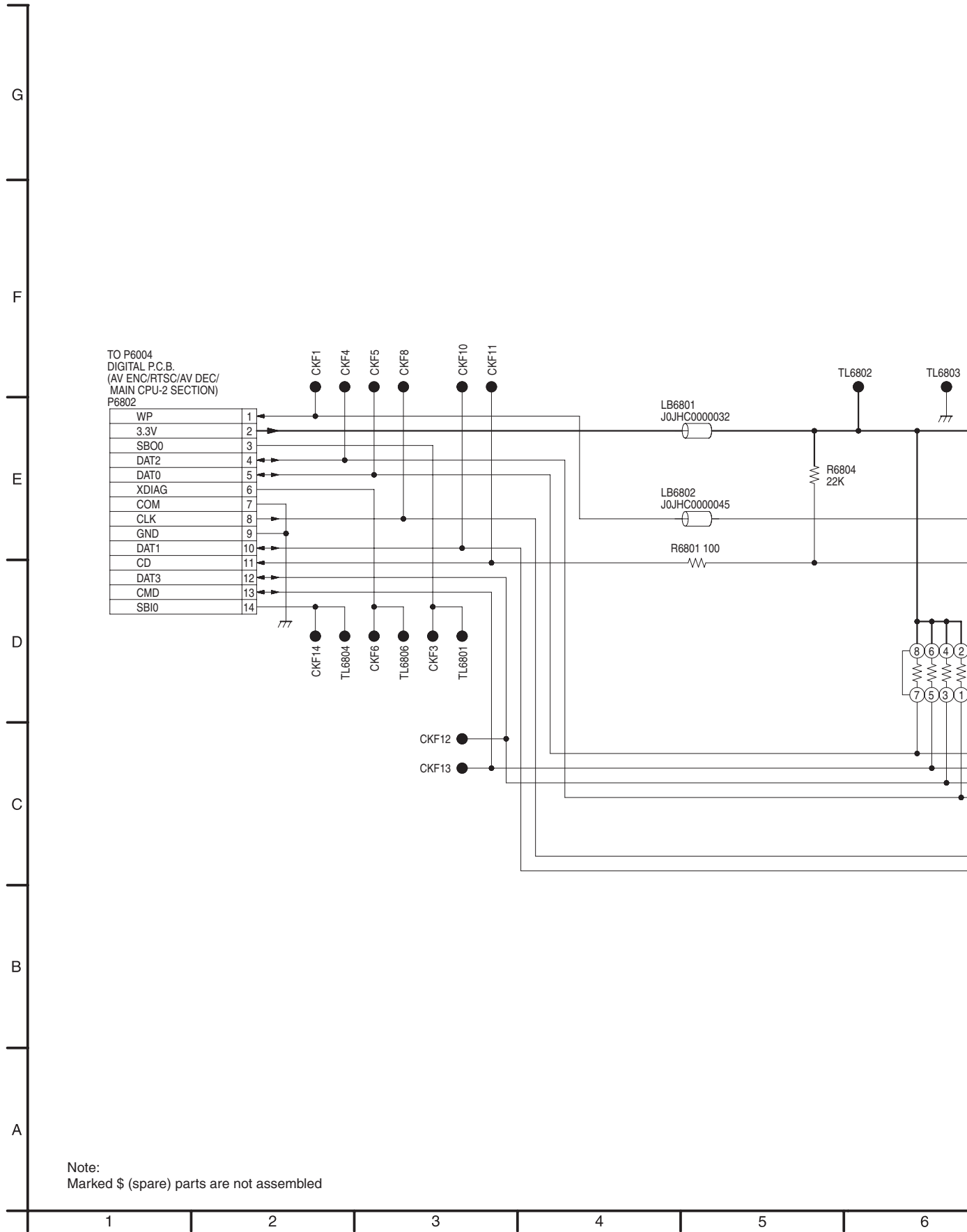


NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT

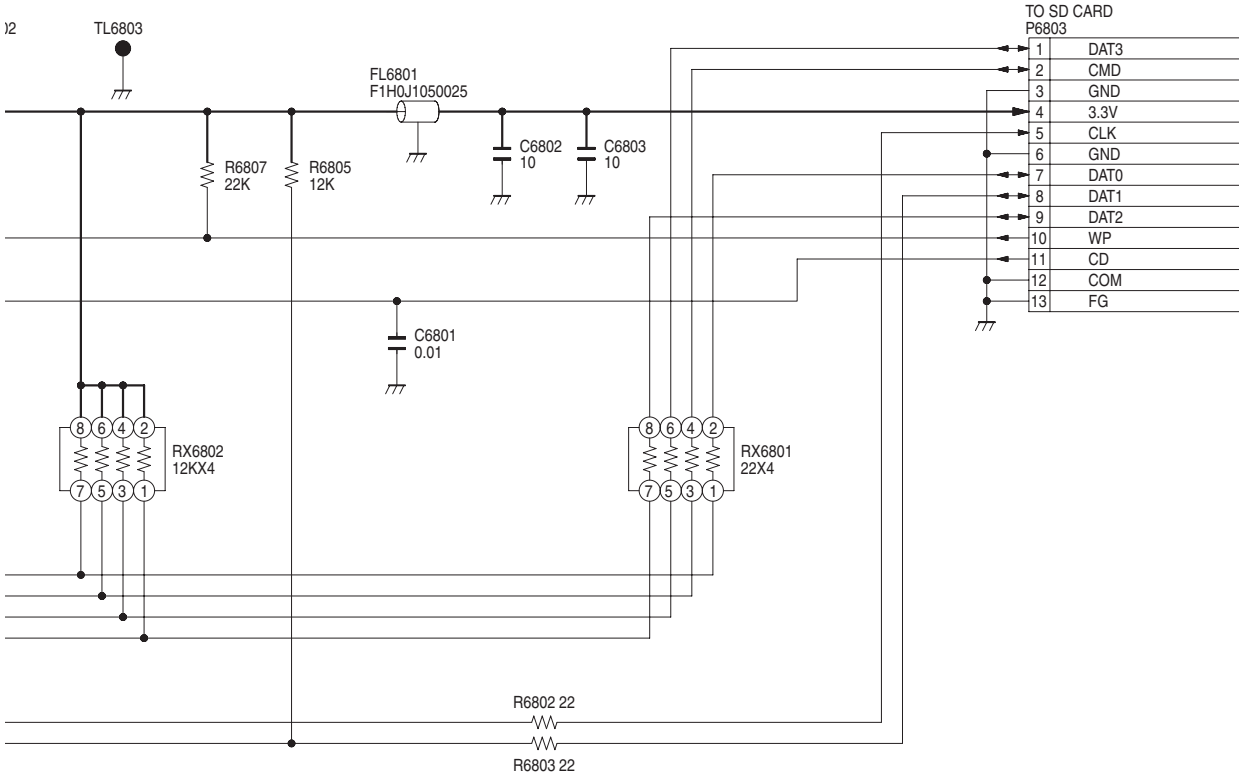


DMR-EH60DEB
VIF-UNIT
SCHEMATIC DIAGRAM

20.8. SD CARD

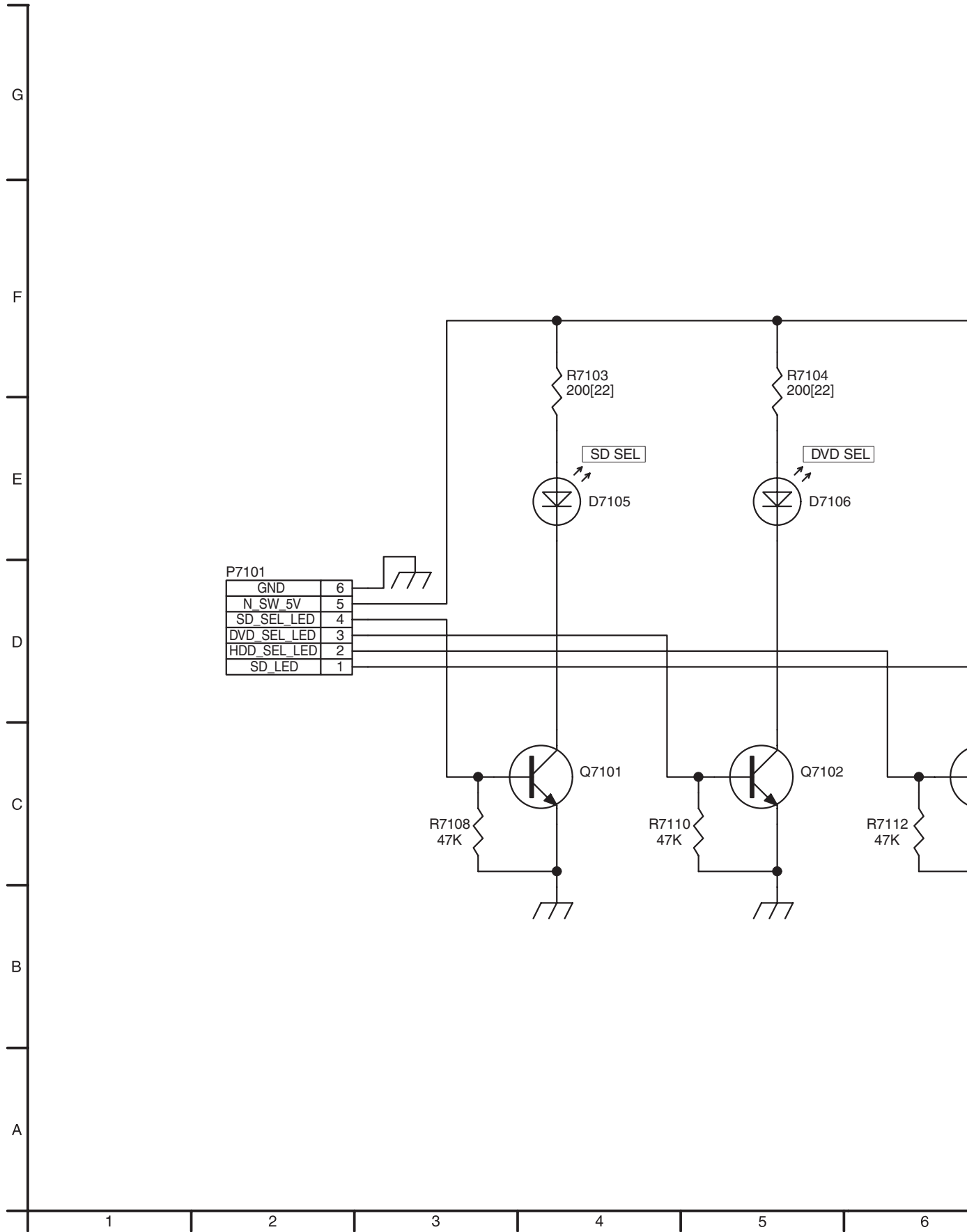


NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT

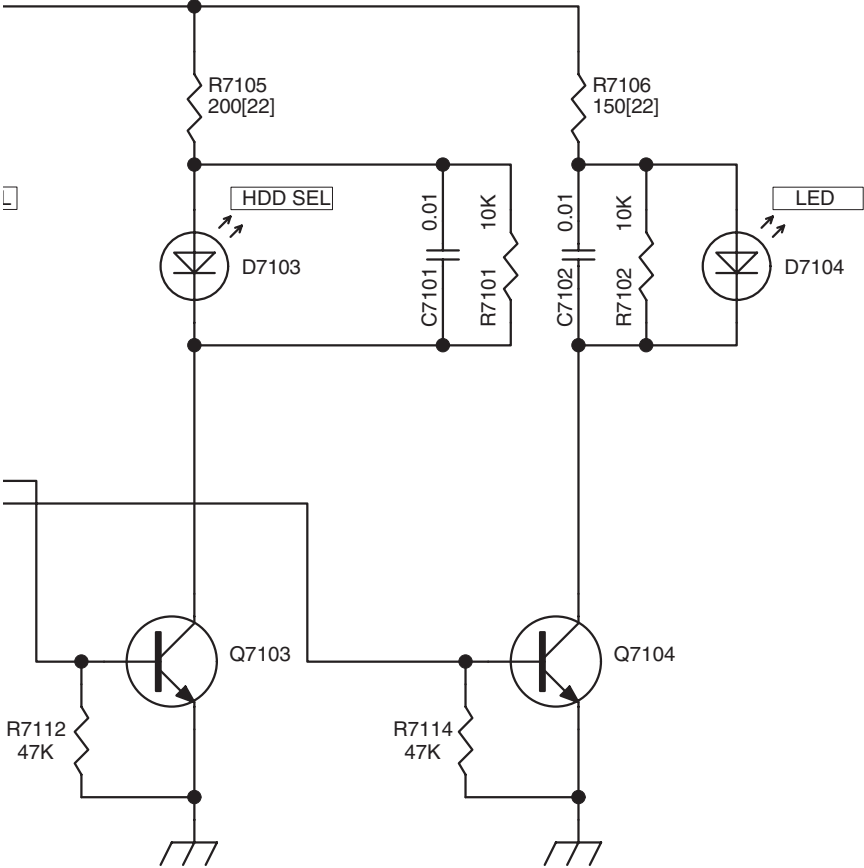


DMR-EH60DEB
SD CARD
SCHEMATIC DIAGRAM

20.9. LED

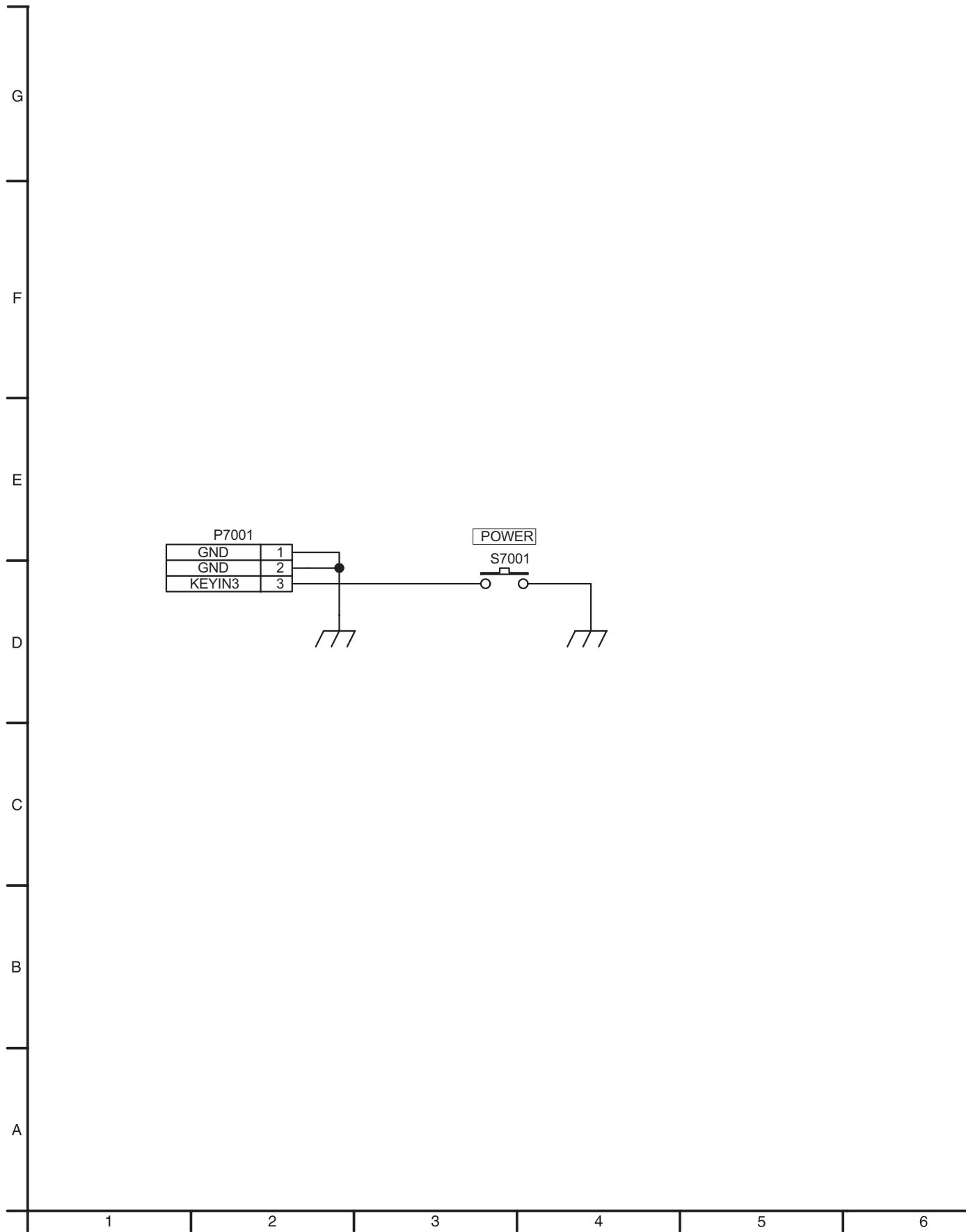


NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT



DMR-EH60DEB
LED
SCHEMATIC DIAGRAM

20.10. FRONT



NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT

DMR-EH60DEB
FRONT
SCHEMATIC DIAGRAM

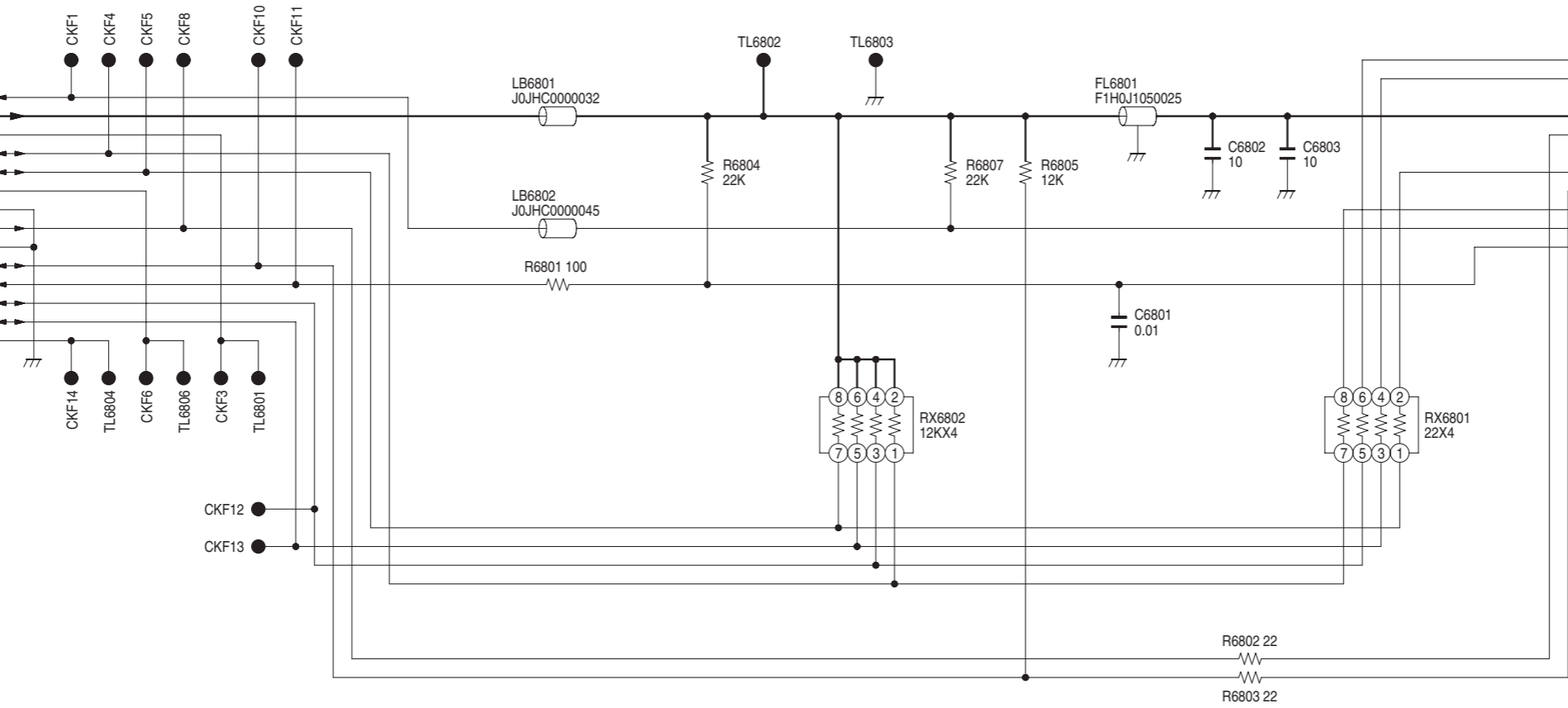


G
F
E
D
C
B
A

NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT

TO P6004
DIGITAL P.C.B.
(AV ENC/RTSC/AV DEC/
MAIN CPU-2 SECTION)
P6802

WP	1
3.3V	2
SBO0	3
DAT2	4
DAT0	5
XDIAG	6
COM	7
CLK	8
GND	9
DAT1	10
CD	11
DAT3	12
CMD	13
SBI0	14



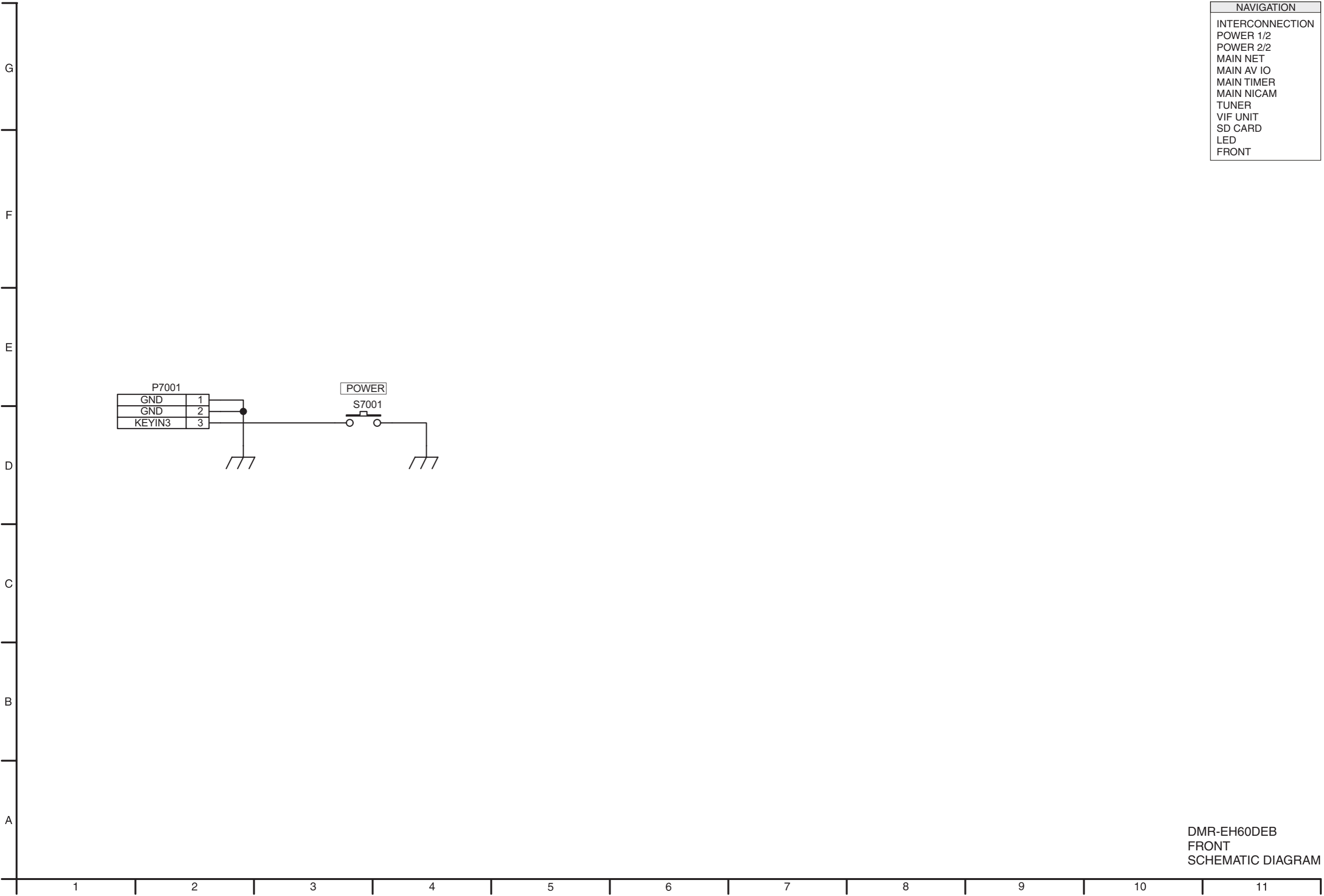
TO SD CARD
P6803

1	DAT3
2	CMD
3	GND
4	3.3V
5	CLK
6	GND
7	DAT0
8	DAT1
9	DAT2
10	WP
11	CD
12	COM
13	FG

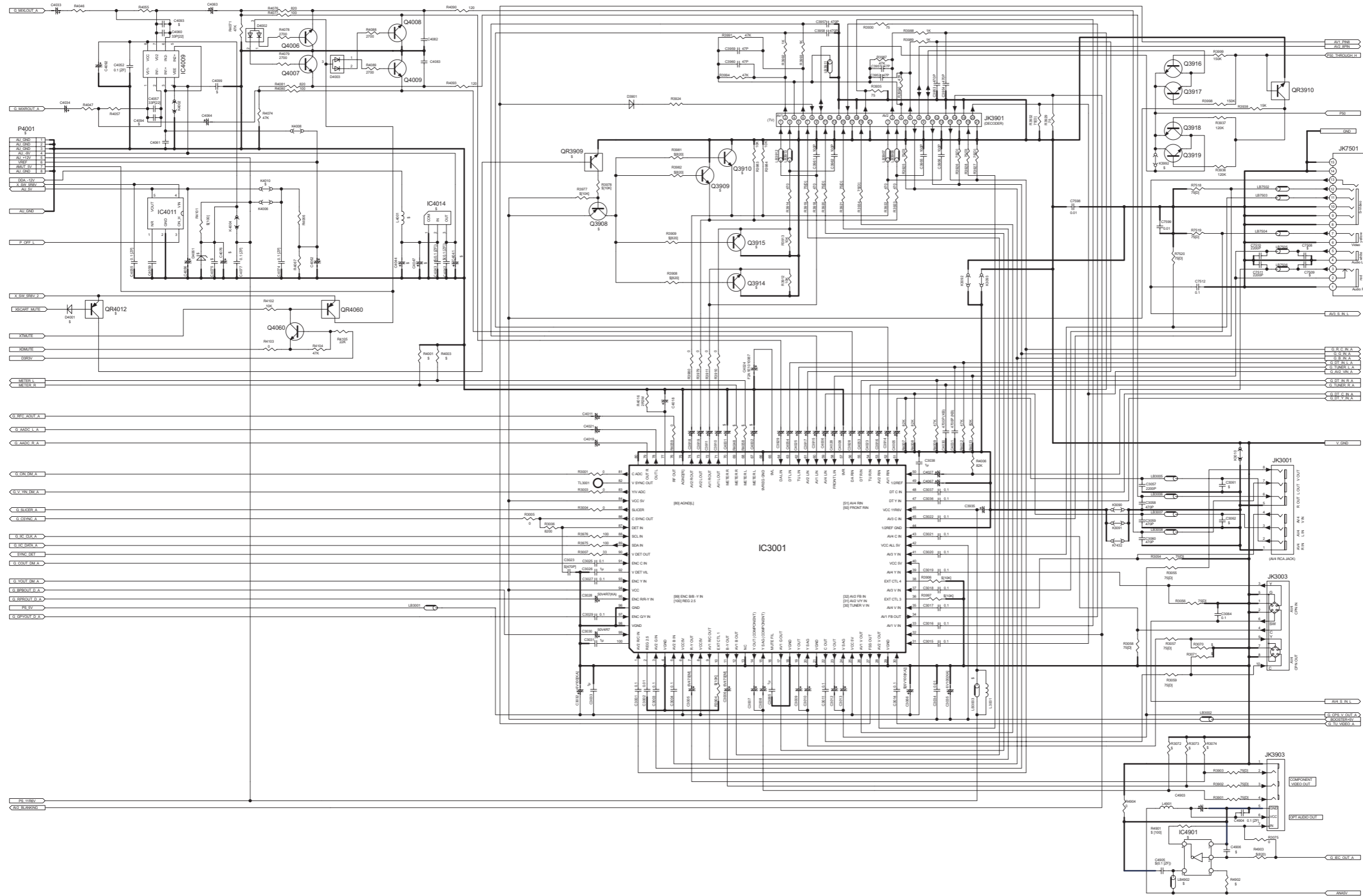
Note:
Marked \$ (spare) parts are not assembled

NOTE:DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.WHEN YOU ORDER A PART,PLEASE REFER TO PARTS LIST.

DMR-EH60DEB
SD CARD
SCHEMATIC DIAGRAM



NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT

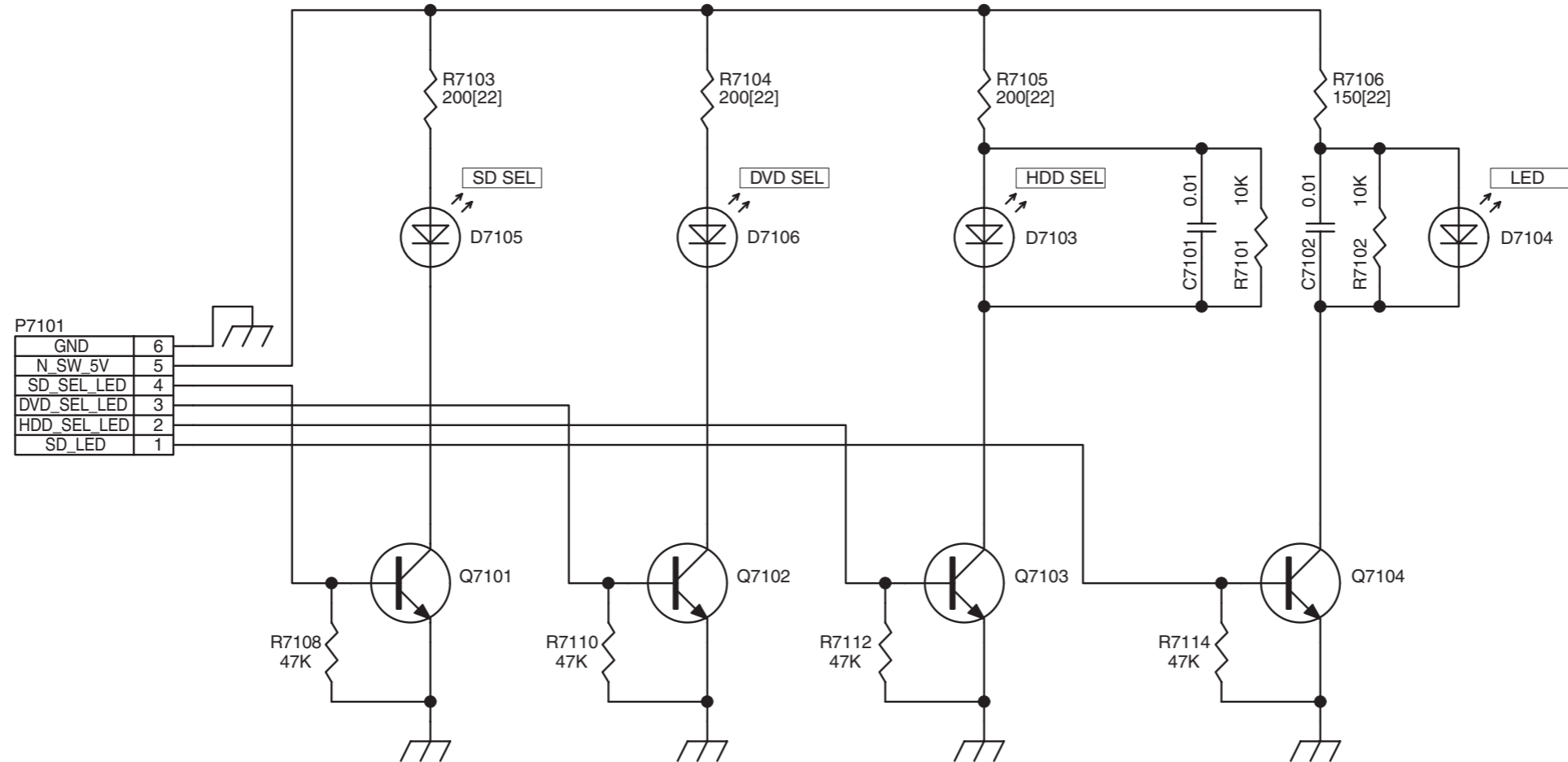


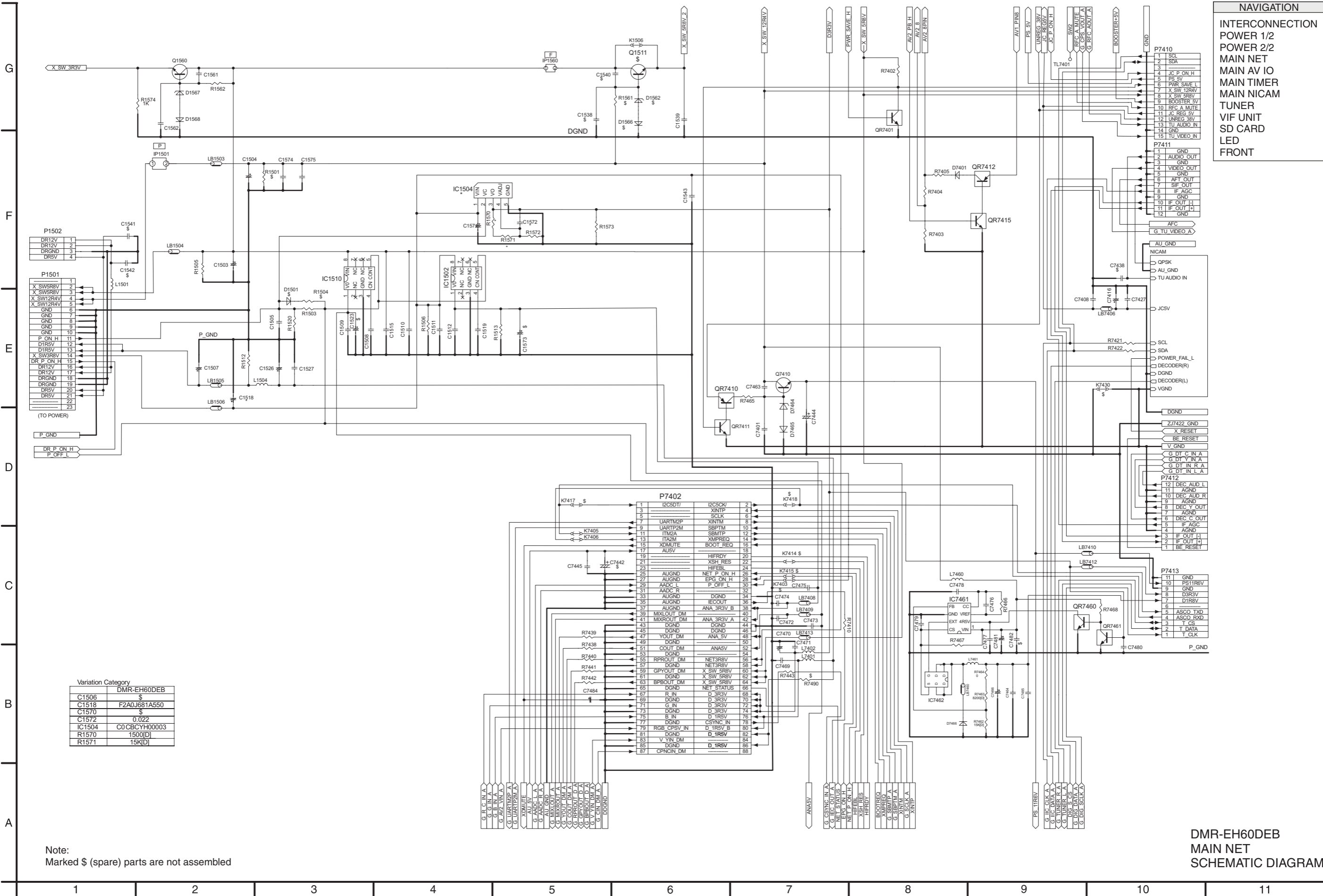
Note:
Marked \$ (spare) parts are not assembled

DMR-EH60DEB
MAIN AV IO
SCHEMATIC DIAGRAM

G
F
E
D
C
B
A

NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT

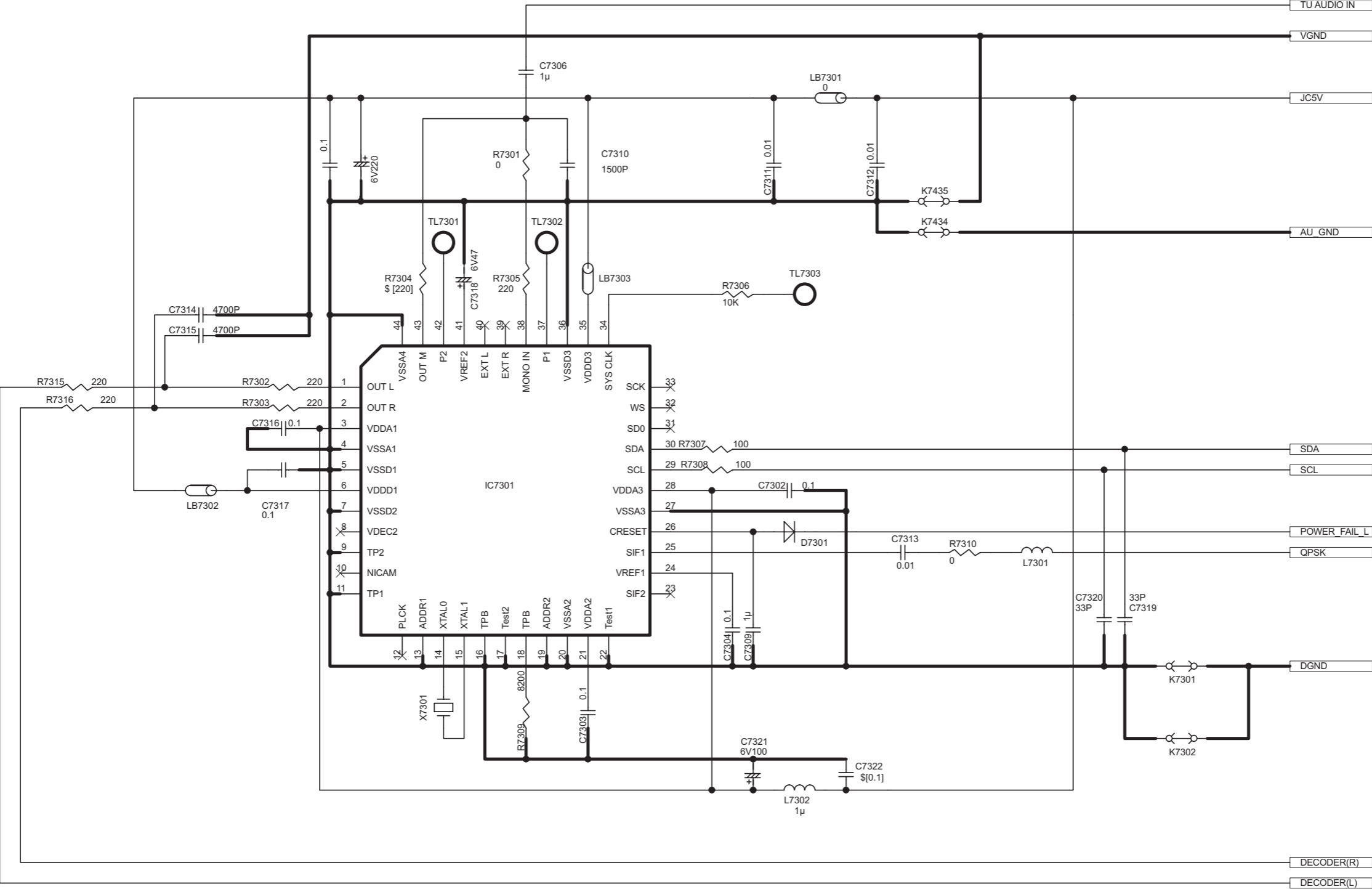




Note:
Marked \$ (spare) parts are not assembled

G
F
E
D
C
B
A

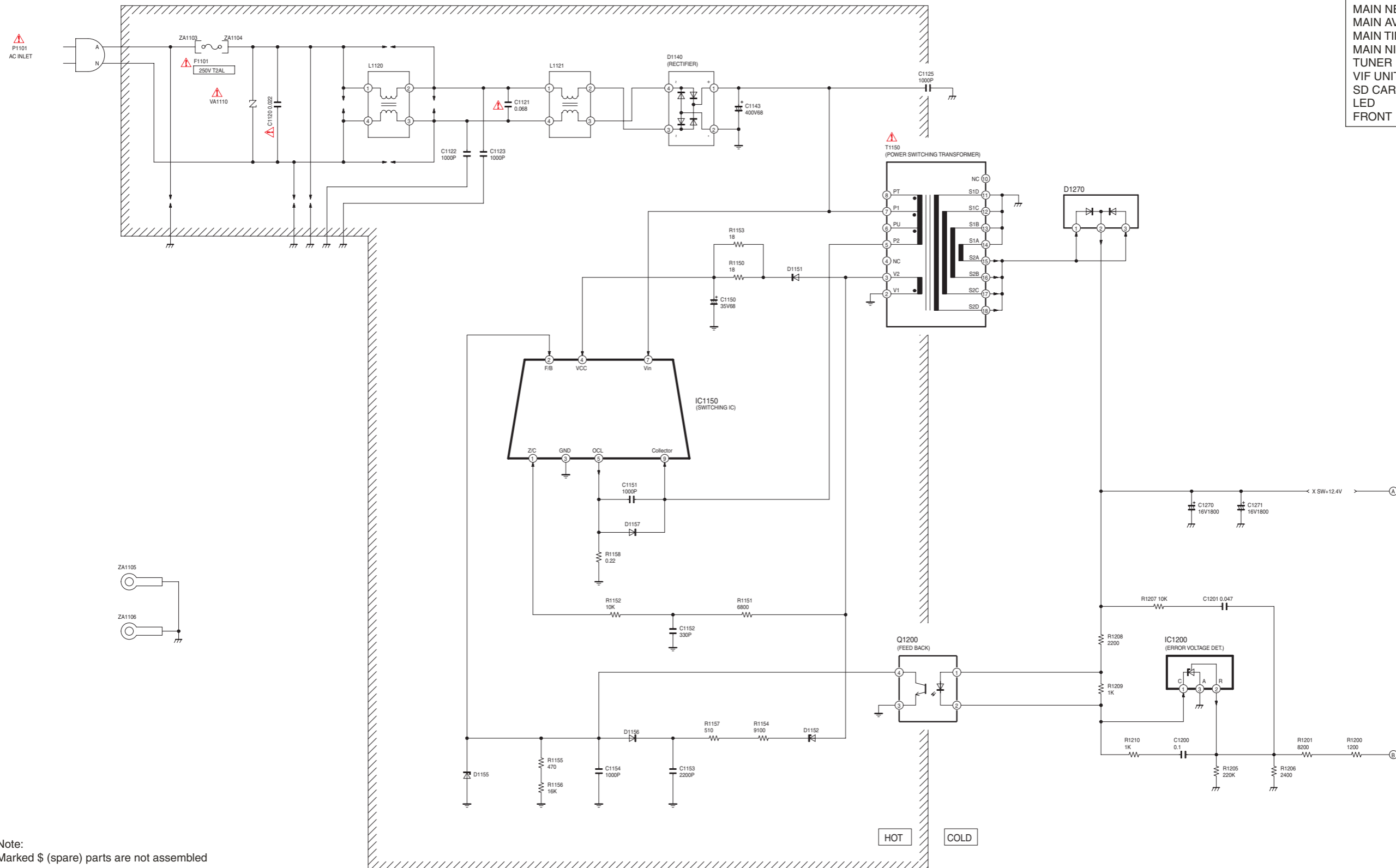
NAVIGATION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT



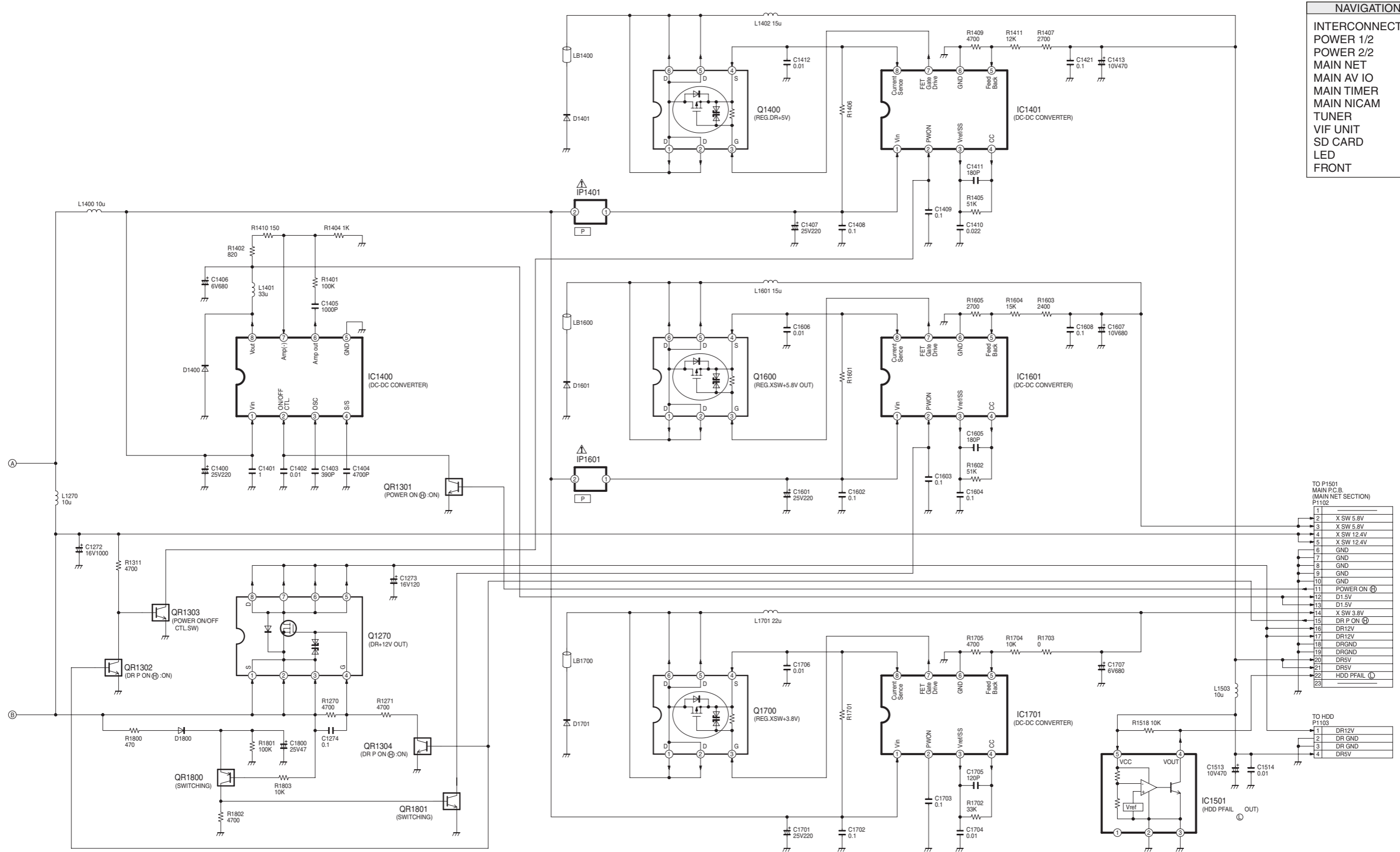
Note:
Marked \$ (spare) parts are not assembled

DMR-EH60DEB
MAIN NICAM
SCHEMATIC DIAGRAM


INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT



NAVIGATION
INTERCONNECTION
POWER 1/2
POWER 2/2
MAIN NET
MAIN AV IO
MAIN TIMER
MAIN NICAM
TUNER
VIF UNIT
SD CARD
LED
FRONT



Note:
Marked \$ (spare) parts are not assembled

Important Safety Notice: 
Components identified with the mark have
the special characteristics for safety.
When replacing any of these components
use only the same type.

DMR-EH60DEB
POWER 2/2
SCHEMATIC DIAGRAM